THE VETERINARY RECORD

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EDITED BY WILLIAM HUNTING, F.R.C.V.S.

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THE EXAMINATIONS CONFERENCE.

We fear many of our readers will think the extra size of *The Record* this week is not justified by its contents. Certainly the very full report of the Conference at which the Principals of Schools and the Court of Examiners met the Council to discuss the subjects for our new professional examinations is important if not interesting. It puts on record the opinions held by leading veterinarians in 1892 and fixes the reasons for their actions It proves also that the reformed Council possesses the power and the will to carry out constructive and destructive work. The opponents of the proposed New Charter once had a good deal to say about the "lowering" tendencies of reforms attempted. So far the "lowering" has resulted in raising the Matriculation examination from a shameful farce to a really fair standard, and in the framing and adoption of a series of professional examinations which will be an honest test of a candidates worthiness for the diploma. The present Council has done more in two years than the old moribund body did in ten.

THE FOUR YEARS COURSE.

The first work of the Conference was to agree upon the subjects of examination and the order in which they should be taken. The Council had drafted the scheme which was submitted to the Conference. So well had it been considered and reconsidered that only very slight alterations were made in it.

The greatest alterations were made in the First or Class "A" Examination, and we have no hesitation in saying that these were all changes for the worse. That monstrosity of a subject which is now miscalled. Botany is retained. It is a jumble of sciences intended to teach veterinary students some structural botany and all about food, medicinal, and poisonous plants. Every school-boy knows, or ought to know, that Botany does not and cannot include the requisite veterinary knowledge of hay, aloes and aconite. Every practitioner—except those who who fancy Botany—knows that these essential subjects can only be taught in systematic lectures on dietetics, on materia-medica and on toxicology. It seems strange that men should think that all knowledge of plants is included in Botany, and still stranger that these very men should bring forward as an argument in favour of their pet science the curious assertion that its study assists the human mind in arriving at correct deductions. One can only wonder what sort of minds these were before Botany affected them.

In the Second or "B" Examination an additional little subject is to be examined on, but only by a practical oral test. This will include the principles of horse-shoeing and a practical acquaintance with animals and stables, such as all students should possess before they are troubled about disease and lameness. This test will ensure the possession of that "practical" knowledge which ought to be obtained by all pupils who have had two years experience in a mixed veterinary practice.

In the Third or "C" Examination another subject is included, viz., Hygiene. It is satisfactory to know that this will add nothing to the studies of the student, as every school asserts that it is and has been taught for years. We believe it has—but not systematically. A little of the subject has been touched upon in chemistry, a little in physiology, a little in botany, and the rest somewhere else. When the Royal College of Veterinary Surgeons examine on it as a whole probably the schools will teach it as a whole, and not entrust hay and oats entirely to the practical veterinarian who usually teaches botany.

In the Final or "D" Examination the Council had proposed to test only the candidate's knowledge of medicine and surgery, with obstetrics and the examination of horses for soundness. To that the Conference added—meat inspection—which was easy. They did not however say how the examination was to be carried out—which is difficult. The gentlemen who examine on the diseases of dogs will be entrusted with the examination on meat-inspection.

METHODS AND TIMES OF EXAMINATION.

The examinations will be both written and oral. The written will be conducted for every school on the same day, and two hours will be allowed in which to answer four questions. As there are three subjects in each examination the written will extend over a period of six hours. The Oral, in the first two examinations will only last for about 15 minutes. In the larger subjects, when it takes the place of the "practical" it will extend to a half or even to one hour.

The new examinations it may be assumed will be to the advantage of everyone except the R.C.V.S. Students will be better tested and thus enabled to show how much they do know. The schools will be pleased that their work is now to be fairly reviewed. The Royal College will have more expense to meet but they hope for the reward of better men to hold their diploma.

CASES AND ARTICLES.

INTUSSUSCEPTION OF THE BOWELS.

By Alex. Levie.

On the evening of July 11th, I was called in to see a Clydesdale foal, the property of W. Smith Esq, Towhead; said to be unable to rise. On my arrival the history given of the case was as follows. The owner on taking a walk through one of his fields, on the Saturday morning preceding, found the mare standing with a five-bar gate around her neck, and the foal lying about one hundred yards off. After relieving the mother of her incumbrance, his first thought was to see nothing was amiss with the foal, which contrary to his desire he found after several futile attempts was unable to rise. Thinking possibly, some part of the body might have been hurt during the night, while the mother was entangled in the gate, and that the inability to rise might only be temporary, he decided to wait results. However as no improvement was apparent by Monday at noon, my advice was requested on the case.

The Symptoms presented were as follows, viz:—The foal in the recumbent posture, in apparent health, eyes bright, ears pricked, pulse 60, temp 102, nothing diagnostic in either of the last two. Mucous membrane slightly injected, respiration and extremities normal, and no loss of sensation in any part of the body, as shown by probing with a needle when evidence of pain was immediately responded to. The foal made occasional attempts to rise, but never got further than up on his fore legs, sitting somewhat in the attitude as a dog on his haunches. I found on lifting the hinder parts up level with the fore, he could stand with perfect ease, but on attempting to walk, simulated that of a colt after the operation of castration. He sucked well, had a passage of fæces, and in every way seemed in perfect health, minus the inability to rise. I should add, in passing, urination was very frequent, about the end of every half hour.

Treatment. Being unable to come to any satisfactory conclusion as to the nature of the complaint, I advised in the meantime a dose of physic, to be followed up by a laxative and nerve tonic mixture. I called next morning about 8 30, when I was informed my patient died at 6 p.m.. Having been very severely pained from 2 a.m., rolling on back, perspiring freely and breathing hard. From this information I considered the cause of death to be an obstruction in the alimentary canal and resolved to make a *post-mortem.*

Post-Mortem. On opening into the abdominal cavity everything appeared at first sight normal, with the exception of the bowels being slightly distended with gas, easily to be accounted for as a post-mortem lesion. After a short search however the cause of death was only too apparent. At about the middle of the jejunum an intussusception of the bowel had taken place, being about nine inches in length. The parts involved were quite black, their coats being about five or six times the normal thickness, containing a considerable quantity of blood and serum. The tissues were easily lacerated and when cut with a knife, a deep dark fluid oozed from the cut surface. On attempting to undo the obstruction, I found it impossible, as the parts were so swollen and easily torn. On cutting into it nothing to guide you to a cause was discovered.

In concluding this somewhat interesting case I may say I am aware the obstruction may only have been partial up to Monday, and that this may, in a way, account for the absence of symptoms common to such diseases, but what I cannot solve—nor am I aided by any work I have seen on this subject—is the loss of power in the hind part of the body and the freqeunt urination. I know the last mentioned symptom is common in rupture of the stomach or bowels when arising from certain causes, but as no distention of the abdomen was shown, causing pressure on the bladder, I am unable to account for it; therefore should any member of the profession have notes on a similar case showing either or both these misleading symptoms, and assign the cause, such a case would be worth reporting in *The Record*, and useful information be thereby made available.

AN ENORMOUS LAMB'S KIDNEY.

By J. H. Carter, F.R.C.V.S., Burnley.

The remarkable pathological specimen which I have great pleasure in describing to my brother practitioners is one that does not fall to the luck of many to witness. On Saturday, August 13th I received a letter from our meat inspector requesting me to visit the Burnley Abattoirs to look at an enlarged kidney taken from a lamb Unfortunately, owing to a recent accident, I could not leave the house, so wrote stating my great disappointment and that I would deem it a great kindness if he could send it up that I might have the pleasure of examining it. It arrived on Monday last carefully wrapped up in a coloured handkerchief, with instructions that it (the kidney) would be again called for. The handkerchief, which by the way was a very large one, was only just large enough to allow the corners to be tied around the kidney. Its mesurements were as follows; greatest circumference measured lengthways 2 ft. 8½ in. and round the body or fundus was 1 ft. 10½ in.; weight 12 lbs. In consistency it resembled a uterus containing a fœtus. It was in reality an enormous cyst or cysts, containing myriads of the common hydatid known best to us as the *eclimscoceus vetermorum.* The fellow kidney appeared perfectly normal and nothing unsound was noticed about the animal previous to slaughter. The carcase when dressed and hung weighed but 24lbs. I could not resist the temptation of taking French leave and sending this remarkable specimen to Professor Williams, thinking it would be a valuable addition to the museum of the New Veterinary College, and an evidence as to the correctness of my description.

Royal College of Veterinary Surgeons.

CONFERENCE OF TEACHERS AND EXAMINERS WITH THE COUNCIL,

Held at 10 Red Lion Square, Bloomsbury, W.C., Wednesday, 20th, July, 1892.

MINUTES OF PROCEEDINGS.

Present: Professors Walley, Vaughan, Heaton, McCall, Williams, Duguid, Brown, McKendrick, Vet.-Col. Lambert, Vet.-Lieut.-Col. Walters, Vet.-Lieut.-Col. Duck, Vet.-Capt. Raymond. Messrs. Fraser, Kidd, Burnett, Donald, Simcocks, Freeman, Fleming, J. Roalfe Cox, Almond, Mason, Trigger, Olver, Clark, Woods, Hunting, Hartley, Beddard, Mr. A. W. Hill, (Secretary), and Mr. G. Thatcher (Solicitor).

Mr. W. J. MULVEY (President) in the Chair.

A printed copy of the following scheme of subjects for examination was supplied to each member of the conference.

FOUR YEARS' SCHEME OF PROFESSIONAL EXAMINATION.

NOTE.—*All Subjects* to be tested by a written, and an Oral Examination in the presence of living or other specimens.

Written papers to consist of six questions, but only four to be attempted, excepting in Class D, when eight questions shall be set and six answered.

EXAMINATION A:—

Written, 2 hours Oral, 15 minutes	1. Anatomy of Domesticated Animals: Bones, Ligaments, Joints, and Muscles of the Limbs.
Ditto	2. Chemistry and Elementary Physics.
Ditto	3. Biology:—Elementary Zoology and Botany.

EXAMINATION B:—

Written, 3 hours Oral, 15 minutes	1. Anatomy of Domesticated Animals.
Ditto	2. Histology and Physiology.
Oral only, 30 min.	3. Simple Stable Management and Manipulation of Domesticated Animals. Shoeing.

EXAMINATION C:—

Written, 3 hours Oral, 15 minutes	1. Morbid Anatomy, Pathology, and Bacteriology.
Ditto	2. Materia Medica, Therapeutics, and Toxicology.
Written, 3 hours Oral, 30 minutes	3. Veterinary Hygiene and Dietetics.

EXAMINATION D:—

Written, 3 hours Oral, 45 minutes	1. Principles and Practice of Veterinary Medicine and Surgery. Clinical Medicine, Surgery, and Obstetrics (Horse and Dog).
Written, 3 hours Oral, 45 minutes	2. Principles and Practice of Veterinary Medicine and Surgery. Clinical Medicine, Surgery, and Obstetrics (other Domesticated Animals).

No Student at College, when this Scheme is sanctioned by the Council, to be in any way affected by it, and an interval of three years to be allowed between the passing of the Scheme and its coming into force.

The PRESIDENT:—I have, first of all, to thank you for your attendance here to-day. The reason that you are called together is that, on the 7th April last, the Council by resolution ordered that, on and after a certain date, every candidate for the examination for their diploma should go through a four years' course of study. In order to facilitate that arrangement, and that the discussion may take something like order, a list has been drawn up of the examinations proposed to be held at the termination of each year. In addition to that, a syllabus has been prepared of each subject for your consideration. Of course there is nothing in this scheme but what is open for your consideration, and for any alterations you may consider necessary to make. I will now call upon Capt. Raymond, who has gone to a great deal of trouble in drawing up this scheme, to introduce the discussion.

Vet.-Capt. RAYMOND:—Mr. President and gentlemen, I have not very much to say. I think the best thing I can do is to give you a short history of what has happened. You will recollect that, on the 7th April, the Council passed what I call the four years' scheme, but referred the details back to the sub-Committee. That sub-Committee then had this paper, which you have all seen, and which has been printed and circulated amongst the examiners and the teachers, for their opinions. In the course of time a certain number of gentlemen answered—I believe their number was 24—and the Secretary of the College was good enough to tabulate their answers, so that we might judge of their value. The next step was to take the four years' scheme, which was sent round, and endeavour to work upon that model; or rather to engraft upon that scheme the modifications suggested by the examiners, and the teachers. That has been done, as far as possible, and you may see at a glance, that the new scheme is considerably modified, though I think, if you look at it closely, you will find that the

general plan is not very much altered. In the discussion which is about to follow, if I may be so bold as to suggest, I would advise that we should first take this scheme and go through examinations "A, B, C, and D," because they are the general principles which I think we shall all agree upon. Next, I think we might take the periods of time allotted in this scheme and discuss them. Having done that, I think we might go on and discuss the syllabus. That, I think, will be the quickest way of getting through our work, if it meets with your approbation. I will now move *pro forma*, by way of introducing the discussion, "That the four years' scheme of professional education as circulated, be approved and recommended to the Council for immediate adoption." This is only a *pro forma* motion in order to inaugurate the discussion.

The PRESIDENT :—Gentlemen, I am in your hands, and I shall be glad to hear your opinions.

Mr. MASON :—I shall have great pleasure in seconding Capt. Raymond's proposition.

Prof. WILLIAMS :—Before that motion is put to the meeting, I beg to propose, as a counter motion, that the whole scheme be considered and discussed.

Prof. MCCALL seconded the motion.

Vet.-Capt. RAYMOND :—May I suggest that these proposals, and counter proposals be in writing.

The PRESIDENT :—I shall be very pleased to receive them.

Prof. WILLIAMS :—My counter motion is, that the four years' scheme be discussed, and duly considered before Capt. Raymond's motion be put to the meeting.

The PRESIDENT :—Of course it is quite possible to discuss this without any formal resolution of the kind. I can put the resolution, if you like, though it seems to me to be unnecessary.

Mr. TRIGGER :—Professor Williams' motion seems to be quite unnecessary. May I suggest that, to be in proper order, we discuss Capt. Raymond's resolution at the end of the meeting, and then Prof. Williams can move any amendment to it.

Prof. WILLIAMS :—It appears to me that we are committed to the four years' scheme without discussing it. If we approve of Capt. Raymond's scheme, we will be bound down to it without any choice in the matter.

Mr. THATCHER :—I rise to a point of order. You are going to discuss now Capt. Raymond's proposition; it will not be put to the meeting until the whole matter has been discussed.

Prof. WILLIAMS :—I object to being dictated to by the solicitor. I put my amendment, and I press it. I will not agree to the four years' scheme until I hear the matter fully discussed.

The PRESIDENT :—We are not met here to discuss whether or not there is to be a four years' course; that has already been decided by the Council. We are met here to discuss the arrangement of that course.

Professor WILLIAMS :—That is my proposal.

Mr. TRIGGER :—If Captain Raymond's resolution is carried, there is an end of our meeting here to-day.

The PRESIDENT :—Undoubtedly. I am not going to put Captain Raymond's motion at all. It will come on at the termination of the meeting. Both motions, in my opinion, are absolutely unnecessary.

Mr. Nicholson ALMOND :—If I understand rightly, the four years scheme has already been adopted by the Council. Therefore, it seems to me to be beyond discussion. We are met to-day to discuss the scheme, and not the question whether there shall be a four years scheme or not.

The PRESIDENT :—I shall be very glad to hear any remarks on the Subject of Class 1., Examination "A" "Anatomy of Domesticated Animals—Bones, Ligaments, Joints, and Muscles of the Limbs."

Mr. ALMOND :—It has appeared to me always that the first examination has been somewhat handicapped by the excess of work which is included in it. I have also noticed that Class "B" has hitherto been a comparatively easy examination. I, therefore, think it would be desirable that the subject of "Muscles" should be eliminated from Subject 1. (Hear, hear.) I notice that "Bones, ligaments, joints, and muscles of the limbs" are included in that clause. I think the subject should be confined to the second examination, especially if we include the subjects which are bound to follow in class "A." I should eliminate "Muscles" from this section and confine it to the second section.

Professor WALLEY :—I quite agree with what Mr. Almond has said upon this point. In the institution, with which I am connected, the habit is to dissect the muscles, nerves, and blood vessels together; consequently I do not see the use of putting muscles in with bones, ligament and other structures.

Professor MCKENDRICK :—I entirely agree with the remarks which have fallen from the two previous speakers. I am thoroughly convinced that our first year's men have got more to do than they should be asked to undertake. I do not think it is good for the students to be overburdened. It is a pity that they should be required to undertake an amount of work they are unable to perform. As far as I am concerned I also agree that "muscles" should be removed from this list.

Mr. HUNTING :—It may look perhaps a little courageous on my part to differ from the previous speakers, all of whom are or have been teachers. But you will notice that the only reason they have given for eliminating the muscles is because they imagine there is no room in this class "A." The only reason they have brought forward is one of time. (No, no.) I shall be very glad to hear the reasons, and then I will reply.

Professor WALLEY :—I made a very distinct statement and that was that muscles, arteries, with the blood vessels and nerves were dissected together. I look upon that as a more important reason than any other.

Mr. HUNTING :—I beg your pardon, I overlooked that. At the same time I do not attach great weight to it. The reason for putting muscles in is that there is now less to occupy the students fully in the first session. (Oh, oh.) Well, if there be sufficient, all I can say is that the reduction in the third subject will leave the students with about 20 per cent. more time on their hands. In subject III. the work that used to be required for students is cut down to about a half. What are they going to do with the surplus time? I think they may well devote it to the study of the muscles of the limbs of the horse and leave the next session for the study of the larger part of anatomy. I say we should require the muscles of the limbs to be studied with the bones, that men may know something about animal locomotion, a subject, I very much regret to say, is now a *terra incognita* to veterinary students. In reply to Professor Walley I may point out that there is nothing which so helps a man to understand a subject as to simplify it; and considering that horses are cheap I see no reason why the students should not dissect the muscles of the limbs in connection with bones and joints, and understand the subject clearly and simply,—a condition which I hold is absolutely impossible for a junior student in eight months to accomplish if he dissects arteries, blood vessels and muscles altogether.

Professor WALLEY :—He dissects them the second year.

Mr. HUNTING :—According to you he does none the first and you give him the whole to dissect in the second session, after an interval of eight or nine months when he has forgotten the details of the bones. I think expediency, convenience, and proper teaching will be carried out by dissecting the muscles of the limbs with the bones in the first year.

Professor WILLIAMS :—I think I must enlighten the meeting upon one point touched upon by Mr. Hunting. In the medical profession there is no anatomy at all in the University examination in the first year. The entire middle period is devoted to anatomy and physiology; and the anatomy got up by students of medicine is much more comprehensive than that required by the veterinary student. They do all this during the second period; and if they have sufficient time to get up the anatomy of the human being during the second period surely we, in our profession, can get up all our anatomy except the bones and ligaments during our second period. I have great pleasure in supporting Professor Walley's proposal. I speak from experience as a teacher. I think it would be very much better to delete the muscles from the first paragraph.

Professor BROWN :—One thing occurs to me in connection with what Professor Williams has said, namely, that there has been an enormous difference in the course of study which is required by the medical student and that required by the veterinary student, because while he has to concentrate himself entirely upon one kind of animal—the human being—the veterinary student is supposed to be familiar with the anatomy of five animals. It is not merely a question of dissecting the horse; there are the ox, sheep, dog, and pig; and it seems to me—not having heard what has gone before—that you cannot make any comparison between the two classes of students. I am disposed from the little I have heard to adopt somewhat the views expressed by Mr. Hunting, at any rate so far as it would include a longer period of study for the anatomy of domesticated animals. I think that is a point which ought to be considered very carefully before the scheme of examinations is entirely fixed.

Vet.-Capt. RAYMOND :—I think that by having the muscles of the limbs in examination "A" you considerably relieve the work the student will have to do for examination "B." I think that is an important matter we should bear in mind—that they have not to deal with only one animal but are supposed to dissect several animals.

Professor MCKENDRICK :—What strikes me as a teacher connected with the medical profession is that with the very great attention given to the subjects of chemistry, botany, and zoology there will be very little time for the student during his first year to devote to anatomy. I say that the syllabus is a thorough and extensive one under examination "A," and that it consequently goes to a greater extent than what is required of any medical student except perhaps that of the London University. If your students during the first year are to get up the knowledge indicated in this syllabus examination "A," under Chemistry, Elementary Zoology and Botany, I think all you can reasonably expect of him will be to get a general knowledge of bones, ligaments, and joints. That is what strikes me as a teacher connected with the medical profession. The theory we go upon in the arrangement of our subjects in medicine is that under the five years curriculum the first year is entirely devoted to biology and to physics and chemistry. We have four subjects there. Then anatomy and physiology will occupy the second and third years. I think it is an excellent plan to have a certain amount of anatomy in the first year; but that with the amount of work you have indicated for your students in the four great subjects of chemistry, physics, zoology, and botany it seems to me that you expect too much to have anything like a thorough knowledge of muscles in the first examination.

Dr. FLEMING :—I quite agree with Professor McKendrick. Anyone who looks at the synopsis will be startled by the immense amount of information a student has to get up in so short an amount of time. Take the middle section. It is perfectly ridiculous to fancy that a young man fresh from school can get up these subjects in eight or nine months. It is utterly impossible. I think we ought to lighten the first examination. It is overburdened with subjects. If you are going to add muscles how can the student dissect the muscles of the limbs and get up these other subjects in such a short period? For a student to get up all these subjects in order to be able to pass would require an extraordinary amount of intelligence. I think the subject of muscles should be left to the second examination, because your must remember that there are muscles which belong to the limbs and also to the body. Are those muscles which belong to the body and to the limbs to be considered in the examination, or where are you going to draw the line. Our subjects of study are immensely sub-divided. The number of subjects a student has to get up is quite alarming. I think in all educational subjects the education should be simplified as much as possible. To overburden a student's mind with a great number of subjects and to let him go through them piece-meal is simply to make a farce of the whole thing. In the old days when the subjects had to be gone through in one examination, I fancy the students were quite as good if not better than they are now. Now-a-days a student gets up a subject in a parrot-like fashion. He passes his examination and he has done with it. After a student has come up for the second examination he has forgotten the bones, muscles, ligaments and tendons. He is so overburdened with subjects that he cannot retain them all in his memory. I think therefore that this examination should be lightened as much as possible and that the subject of muscles should be left to the second examination.

The PRESIDENT :—The syllabus is not now before us for discussion. We propose to go through the list of subjects to be put down at a later period.

Vety. Lieut.-Colonel WALTERS :—I quite agree with what Dr. Fleming and other gentlemen have stated with reference to the almost impossibility to get up the subjects of muscles for the first examination; because, setting aside the objections which there would naturally be to having a kind of patchwork examination, I think that the range of subjects is such a large one that it would be quite impossible for students to get up the dissection of muscles of the limbs properly in the first examination. I think it should be put back to the second examination.

Mr. SIMCOCKS :—I believe, if any reduction is to be made in the scheme for the first examination, the reduction should be made in the more ornamental subjects, in chemistry rather than anatomy. The only argument used at present is, not that it would not be a good thing that the muscles of the limbs should be included in the first examination, but that there is not sufficient time for it. Of course the time for the study is lessened if you increase the amount of chemistry which must be learnt. It appears to me, from experience, that, in the first examination, it would be a useful thing if the student did know something of the muscles of the limbs, and singularly enough, a good many of them do. If any change is to be made in the scheme of examination "A," on the ground that the time for acquiring all the knowledge is not sufficient, I think a change should be made, not by lessening the amount of anatomy to be learnt, but but lessening the amount of chemistry which appears to me to be excessive, and which, I am assured on the authority of one of the chemistry examiners, is much in excess of what is required by any medical student. I strongly object to the subject of the muscles of the limbs being eliminated from the first examination.

The PRESIDENT :—It is proposed that the muscles of the limbs be eliminated from clause 1 of examination A. I will now put the motion.

The motion "That the muscles of the limbs should be eliminated," was then put and carried.

The PRESIDENT :—The next is Subject II. "Chemistry and elementary physics."

Professor WALLEY :—I should like to make a few remarks with reference to this subject. Chemistry, of course, naturally comes in here ; but with this comes the question of physics. I do not know whether it was the intention to put elementary physics, or chemical physics ; but elementary physics ought to have been made a question for the educational part of the business, and not introduced here at all. Not that I disagree with the question of physics being introduced as a subject of study. On the contrary, I can see, and have seen, all my life, that it is one of the most important things to enable a student to grasp his subject properly. What I want particularly to draw attention to is this: Physics, that is chemical physics pure and simple, are always taught by the teacher of chemistry ; at any rate it is so in our College. Professor Aitken spends from three weeks to a month in chemical physics. That, practically, includes a good deal of what is ordinarily known as elementary physics, I would suggest that a rigid line be drawn as to how far it is to go. The only question is, whether you are going to use the term "elementary physics" or "chemical physics."

Professor WILLIAMS :—I beg to propose that subject 2 reads as follows: "Chemistry and Practical Chemistry."

Professor VAUGHAN seconded the motion.

Mr. ALMOND :—I beg to support Professor Walley's suggestion. I am very strongly impressed with the amount of work the students have to get up in this first examination, and I certainly think that the proper place for elementary physics is at the matriculation examination. It is a subject which is taught at all schools of any importance at the present day, and I think it could be taken very easily then, and the first examination will not be handicapped by it. Of course it is absolutely necessary that students should be acquainted with this matter ; and it seems to me that the proper place for it is the matriculation examination. There is quite sufficient, in the other division of the subject, for the examiner to deal with at the present examination.

Professor WALLEY :—I propose that the clause be altered to read "Chemistry and Chemical Physics." "Practical Chemistry" is included in "Chemistry" always.

Mr. HUNTING :—I should like to point out that it is impossible to consider alterations in the matriculation scheme. After about two years work we have arrived at a conclusion upon that point, and it does not contain physics.

Professor MCKENDRICK :—Even at the risk of being obtrusive, I should like to say a word upon this subject. I am sorry that on this particular point I must differ from Professor Walley. I think it would be of importance for the students to have a short course of what one may term elementary physics, say a 50-lecture course, made as far as possible experimental. If you limit the subject to what is usually called chemical physics, you shut out the consideration of a good many subjects, a knowledge of which is of the greatest importance in a thorough understanding of physiology. I have been struck, during the time I have acted as examiner, with the difficulty which many of the students have had in getting hold of what one may call a simple elementary knowledge of physical principles. If they had some idea of pneumatics, hydrostatics, and some of the simpler phenomena of optics, they would have very much greater ease in acquiring a sound knowledge of physiology. What we understand as chemical physics relates more particularly to heat and evaporation, and various phenomena discussed by chemists. But there is another department of physics, which is really of great importance, and I have found students take a deep interest in the subject, if it is taught in an experimental way. Another argument I would use is somewhat contrary to what has been stated by another gentlemen, viz., that elementary physics is not very well taught in the great majority of our schools. No doubt improvement has been made in recent years in this matter, at all events in Scotland ; but I am bound to say that if you relegate this subject entirely to the matriculation examination, you will have men come up with a very superficial smattering of knowledge, derived from cramming a small text book. It would be much better for them to have a 20-lecture course upon experimental physics, showing the general properties of matter. That would relieve the chemist to a considerable extent, and, I am sure, it would give an amount of knowledge to these students which would be of great value to them in their future study of physiology.

The PRESIDENT :—It is proposed by Professor Williams that clause 2 read as follows : "Chemistry and Practical Chemistry."

Prof. HEATON :—Does that imply a laboratory examination in practical chemistry ?

Prof. MCKENDRICK:—Yes, that is the meaning of it.

Prof. Williams' amendment was then put and it was resolved that Subject 2 should remain "Chemistry and Elementary Physics."

The PRESIDENT :—The next subject is Biology subdivided into elementary zoology and botany.

Prof. WALLEY :—I beg to move that subject 3 stand as it is.

Vet.-Lieut.Col. WALTERS seconded the motion which was agreed to.

EXAMINATION "B."

The PRESIDENT :—Examination "B" is next. Subject 1. "Anatomy of Domesticated Animals."

Prof. WALLEY :—I beg to move that subject 1 stand as it is.

Mr. FRASER seconded the motion, which was agreed to.

The PRESIDENT :—Subject 2 is "Histology and Physiology."

Prof. WILLIAMS :—I move that the clause remain as it is.

Prof. MCKENDRICK seconded the motion which was agreed to.

The PRESIDENT :—Subject 3, "Simple Stable Management and Manipulation of Domestic Animals. Shoeing."

Mr. ALMOND :—I should like to point out that the first note says "All subjects to be tested by a written and an oral examination." In the particular subject, now under consideration, the oral is only given. One or the other will have to be altered.

The PRESIDENT :—That subject can be dealt with afterwards.

Prof. WALLEY :—I beg to propose that the subject stand as it is.

Vet.-Col. LAMBERT :—I propose that the word "simple" be omitted.

Prof. WILLIAMS :—I propose that the word "shoeing" should be discussed.

Prof. WALLEY :—That will come in the syllabus.

Mr. J. ROALFE COX :—If I am correct, this examination is an entirely oral examination ; and it appears to me that it would be difficult to carry out very many of the branches under this particular heading. With regard to handling the animals, and the uses of appliances to animals, it seems to me that that can hardly be done at the table.

The PRESIDENT:—It is not proposed to be done at the table.

Mr. J. ROALFE COX :—Is it a practical examination ?

The PRESIDENT :—Yes.

Prof. WALLEY :—I will alter my motion and suggest that the word "simple" be eliminated.

Mr. ALMOND :—I would suggest that the word "practical" take the place of the word "simple."

The PRESIDENT :—It is all practical.

Prof. BROWN :—It you put "practical" you must omit the word "Oral."

Mr. J. C. ROALFE COX :—It says here "Simple Stable Management and Manipulation of Domestic Animals. Shoeing. Oral only."

Prof. WALLEY :—That is understood to be altered.

Prof. MCCALL :—I think it is a point to be decided whether shoeing should come in here. I propose that the word be deleted and come in either at examination "C" or "D."

Mr. HUNTING :—I think, by the time a student has completed two years at college, and probably been with a practitioner in the summer interval, the time has arrived when he should know something about the shoeing of a healthy horse. It is not a very extensive subject. We were talking about overcrowding just now; if we put shoeing in the next year, and mix it up with hygiene, we shall overcrowd the 3rd session. We have put shoeing carefully into this clause believing that a man can easily get it up by that time, and it will relieve the more important subjects, or the more scientific subjects, at the examination "C."

Mr. WOODS :—May I point out that, whatever you do in shoeing in this examination, it must necessarily come in the final practical examination.

Mr. HUNTING :—No. That is what we put it here for.

Prof. WILLIAMS :—The question I want answered is, what you mean by shoeing. Is a man to make a shoe and put it on, or is it to give the principles of shoeing orally?

The PRESIDENT :—The principles of shoeing orally.

Mr. TRIGGER : If you bring shoeing into class "B," you will have to appoint practical examiners for class "B."

Prof. WILLIAMS : There must be examiners for this. I do not object, myself, to shoeing being in the "B" examination.

Dr. FLEMING : Would it not be well to put "The principles of shoeing"? You can easily examine the students in the principles of shoeing without practical test.

Prof. WILLIAMS : I do not object to that.

The PRESIDENT : We have three amendments. The first is by Prof. Brown that the word "simple" be eliminated. The next is by Prof. McCall who wishes "shoeing" to be deleted altogether; and, lastly by Dr. Fleming who wishes that it should read "the principles of shoeing."

Prof. MCCALL : I withdraw my amendment if you put "Principles of Shoeing."

The PRESIDENT : I will put Dr. Fleming's motion that the clause should read "Stable Management and Manipulation of Domesticated Animals and Principles of Shoeing."

The motion was put and agreed to.

EXAMINATION "C."

The PRESIDENT ;—Examination "C," Subject 1, Morbid Anatomy, Pathology and Bacteriology."

Prof. WALLEY ;—I see no mention made in the scheme of either helimthology or meat inspection. These, I need scarcely say, are most important subjects, and I should like to know whether it is thought or intended they should come in.

Dr. FLEMING :—I think they might come in under subject 3 of the first examination.

Prof. WALLEY ;—That is merely zoology; it is not a clinical aspect at all.

Vet.-Col. LAMBERT ;—I wish very strongly to support Prof. Walley's proposition that "Meat Inspection" should be included. I will give you an instance that has been brought to my notice. I have, from several quarters, been requested to bring this matter before the Council. In one very large town there is a meat inspector, and he not only inspects the meat, but also fruit, poultry and fish. He is an extremely ignorant man, and if what I am told is true he is not at all trustworthy in any way. I have been urged by several influencial people in that town to bring the matter before the Council in order, if possible, to take some steps to educate veterinary surgeons with a view to becoming meat inspectors, and being qualified men. I beg to support Prof. Walley's proposition, and propose that meat inspection should be added to one of these examinations.

The PRESIDENT ;—Will you propose where it should come in?

Vet.-Col. LAMBERT ;—In subject 3.

The PRESIDENT :—We are now discussing Subject 1 of examination "C"; therefore that will come aftewards.

The motion that subject 1 should stand as it was was agreed to.

The PRESIDENT :—Subject 2, "Materia Medica, Therapeutics and Toxicology."

Prof. WALLEY :—I propose that that stand as it is.

Mr. OLVER :—Looking through the syllabus I do not see that the dispensing of medicine is brought in any where. As an examiner, who has had some little experience I must say I think it is very desirable that it should come in somewhere; and, if anywhere, it seems to me that it should come in under this head. I think it is very essential that students should be able to dispense medicines.

Mr. HUNTING :—In Subject 3, if you look at the syllabus you will see that there is an oral examination upon this subject "forms in which medicines are used. Methods of administration or application" and so on. I think a practical man could get it in there.

Prof. WILLIAMS :—I move to insert the word "pharmacy" after the words "materia medica."

The PRESIDENT :—It is proposed that Subject 2 of examination "C" stands as it is with the addition of the word "pharmacy" after "materia medica."

Prof. MCCALL seconded the motion which was agreed to

The PRESIDENT :—The next is Subject 3, "Veterinary Hygiene and Dietetics."

Vet.-Col. LAMBERT :—I will not repeat the remarks which I made in advocating the introduction of meat inspection but I just wish to add that it appears to me that our profession might take a very much wider field and get very many more appointments than it does if we only convince the Government that we deserve them. I therefore beg to propose that the words "meat inspection" be added to this subject.

Prof. WILLIAMS :—I think it would come better under subject 2, of examination "D."

Mr. KIDD :—I beg to second Colonel Lambert's proposal. I think it is of great importance to the veterinary profession and to the public at large. Anyone who has had any experience in a large town of meat that is exposed to sale must agree that it is something shocking—even where the town is under so-called meat inspectors. They hold other appointments as well, but they do not know much about the matter. If you go through almost any market you will see meat which is certainly unfit for food.

Mr. HUNTING :—I might point out that this is a conference not for teaching but for examination. The carrying out of an examination on the inspection of meat will be an extremely difficult and expensive thing for this profession to undertake. Unless it can be shown how this is to be done I think such a resolution ought not to be proposed.

Prof. WALLEY :—Everybody who has had anything to do with the subject of meat inspection must know that it is one of the most important of all the subjects which

engage the attention of veterinary surgeons. In Edinborough just now there are no less than four qualified men engaged in it. The more we show to the public and to public bodies generally that we are determined the subject shall be taught and examined upon, the more likely the matter will be taken up. As to the examination, and carrying it out surely that is simple enough. The only question is, should it come in here, or as Prof. Williams suggests, in examination "D." It can be carried out by a practical man who knows the work in a very short space of time either in London or Edinburgh. Even if you only make it an oral examination without having any meat at all, it is better that it should be recognised. If you do not recognise it you cannot expect that the veterinary profession is going to take up the position it ought to occupy with reference to these matters.

Prof BROWN:—I should like to point out that this surely involves a practical examination. Knowing some thing of meat inspection myself, having seen a very great deal of it, I do not understand how you can tell whether or not the candidate can look at the carcases and say "That is fit for food," which he should be able to do by touching with his fingers unless he is taken to the carcases for examination. I have no objection to the insertion of the words, but if they are added it surely must be that the examination is entirely practical.

Vet.-Col. LAMBERT:—When I made the proposition it was certainly in the sense in which Prof. Brown has just spoken.

The PRESIDENT:—So I understood it. It is proposed by Col. Lambert that subject three of examination "C" stand as it is with the addition of the words "meat inspection."

Prof. WILLIAMS:—I think this is out of place and I beg to propose a counter motion. I accept that the thing ought to be carried, but I move that it come under subject 2 of examination "D."

Mr. OLVER:—I second that.

The PRESIDENT:—The amendment is that this Subject be carried as it is, and that meat inspection be added to examination "D."

Vet.-Col. LAMBERT:—I am willing to accept the alteration suggested by Prof. Williams if it is not thought that it will overload the other examination.

The PRESIDENT:—Then it is proposed that Subject 3 stand as it is.

EXAMINATION "D."

The motion was put and agreed to.

The PRESIDENT:—The next is examination "D," Subject 1, "Principle and practice of Veterinary Medicine and Surgery. Clinical Medicine, Surgery, and obstetrics (horse and dog.)"

Prof. WALLEY: In connection with this I think the question of parasitology ought to be considered. I propose that the parasites be added, at any rate so far as the horse is concerned.

Prof. WILLIAMS: I think the Clause is perfectly good as it stands.

Vet.-Col. LAMBERT: May I ask Prof. Williams if he thinks this is the proper place for meat inspection to come in.

Prof. WILLIAMS:—No, No. 2.

Dr. FLEMING: Would it not be well in order to prevent confusion to say—"parasites as the cause of a 'disease.'"

Mr. OLVER:—I propose that from paragraph 1 the word "dog" be omitted and added to paragraph 2. As a matter of fact horse examiners have so very much more to do with lameness and other branches of examination for soundness, that I think the dog would be better taken in the second section. I also think it advisible that the word obstetrics be put in No. 2 only. I should also like to make a further suggestion with regard to the 45 minutes.

The PRESIDENT:—That will be discussed afterwards.

Mr. OLVER:—Then I simply propose that the word "dog" be omitted from No. 1 and be added to No. 2.

Prof. MCCALL:—I second that.

Mr. HUNTING:—The reason the word "dog" was put in there by the Committee was this, that the town practitioner is the man who attends horses, and sees most of them, and is the man who attends most dogs. There are scores of good country practitioners who do not know the diseases of the dog when they see them. It is our good fortune to have Examiners now on Cattle Pathology who do know something about dogs, but it is more likely that a horse doctor would be a dog doctor than a cow doctor would be a dog doctor.

Mr. J. ROALFE COX:—I agree with the first speaker that the question of examination connected with horses is very heavily weighted, and I think it is a disadvantage to that subject that the dog should be included. In the horse there are subjects introduced which do not at all apply to other animals. I am quite sure the table would be over weighted if the dog be added to it. I scarcely agree with the remark made by Mr. Hunting that those who have the greatest experience in horse practice have also the greatest experience in dog practice. My idea is just the contrary. I think it would be an advantage to eliminate the word "dog" from the clause.

The PRESIDENT:—It is proposed that subject 1 examination "D" stand as it is but, that the word "dog" be eliminated.

The motion was agreed to.

The CHAIRMAN: Subject 2, "Principles and practice of Veterinary Medicine and Surgery, Clinical Medicine and Surgery and Obstetrics (other domesticated animals.")

Vet.-Col. LAMBERT: I beg to propose for the reasons already stated that meat inspection be added to this clause.

Mr. KIDD. I seconded the motion.

Mr. HUNTING: I think it would be very much simpler if you made meat inspection a third Clause which does not necessitate the examiner on dog examining also on meat inspection I would also point out that, owing to the accidental circumstance of Prof. Walley having something to do with the Meat Market in Edinburgh it might be available for our use. In London there is no place available for our use, and the examination could only take place by carting down various samples of good and bad meat to the Royal College of Veterinary Surgeons and having them hung up there.

Prof. WALLEY: Let it be done as long as it is carried out.

Vet.-Col. LAMBERT: I beg to propose that "obstetrics" be not divided but taken altogether in one section of the examination.

The PRESIDENT: That has been settled. It is proposed that Subject 2 stand as it is with the addition of the words "meat inspection."—carried.

DURATION OF EXAMINATIONS.

TIMES OF "A" EXAMINATION.

The PRESIDENT: We will now proceed to discuss the arrangement of the times. Examination A, Written, two hours. Oral, fifteen minutes for all three subjects.

Prof. HEATON: I think it is practically impossible to consider the time without some reference to the synopsis. For instance, looking at this enormous synopsis for chemistry fifteen minutes would be nothing. It would take two hours. To examine in fifteen minutes on the whole of the synopsis is impossible.

The PRESIDENT: We shall come to the synopsis afterwards.

Prof. WILLIAMS:—I move that it stand as it is "Written, two hours. Oral, fifteen minutes."

Prof. McCall seconded the motion which was agreed to.

Times of "B" Examination.

The President:—Examination B, subjects 1 and 2 "Written, three hours. Oral, fifteen minutes."

Prof. Walley:—I beg to propose that it stands as it is.

Prof. McKendrick:—I am not sure about this. I have not had the opportunity of consulting the Examiners about the matter. I should not like to introduce any distinction between the examination in anatomy and physiology, but I must say my experience as an Examiner, extending over a period of 20 years is that the time of two hours for a written examination is quite sufficient to test men's general knowledge. Three hours is a long period, and what it ends in is simply getting more lengthy papers and containing a larger amount of padding. My impression is that you can find out what a man knows perfectly well in a written examination in two hours. At the same time if anatomists are of opinion that the examination on that subject should be three hours I would not object, and I know it is the feeling of my colleague, Dr. Haliburton. To put histology and physiology in a different position might give the student an impression that somehow or other those subjects were not so important. It is my opinion that it would save the Examiners an immense amount of trouble, and be as thoroughly efficient if the examination were only two hours. Perhaps the oral examination might be a little longer so as to introduce some practical work. I am not making any motion, but I should like to know the opinion of the other Examiners on that point.

Mr. J. Roalfe Cox:—I think two hours would be infinitely preferable to three hours.

Dr. Fleming:—I have no objection to three hours, but I think that two hours are ample.

Prof. Walley:—I have no wish to press my motion. You can make it two hours.

The President:—It is proposed by Prof. McKendrick and seconded by Dr. Fleming that in subjects 1 and 2 the written examination should be for two hours.

The motion was agreed to.

The President:—It is for you now to consider how long the oral examination should last.

Dr. Fleming:—I think fifteen minutes is altogether a farce. It only allows each Examiner 7½ minutes to examine on the anatomy of the horse and the structures of the horse except those which are mentioned in the first examination. It is utterly impossible to examine a student in 7½ minutes on such an extensive subject. Now we have ten minutes each on the anatomy of the horse and on the anatomy of other animals. I must confess that ten minutes are far too short to examine students on such an important subject. If you reflect for a moment the number of subjects we have to examine upon, you will see that it is altogether out of keeping. A slow student comes up, and 7½ minutes would be expended in getting the first answer out of him. I therefore suggest, in justice to the Examiners, and to the public, that more time should be allowed for this oral examination.

Mr. Hunting:—The remarks of Dr. Fleming suggest at once that the students must have been very improperly examined up to the present time if they only had five minutes longer for the oral examination than is here proposed, whilst we are giving them a two hours written examination in addition. His remarks seem to be founded on the idea that we have reduced the oral examination, whereas we have really increased it by five minutes, and have given them two hours for the written examination. I think it is possible to examine a man thoroughly in two hours even without an oral. The oral examination following the written examination is simply a matter recognition of specimens which could be done in five minutes, and with two hours for the written examination fifteen minutes for the oral is ample time. If we increase the time much, we shall not be able to pay for the examinations.

Dr. Fleming:—The whole examination does not consist of an examination of specimens. There are a number of examinations entirely apart from that, that must be so. If the time has been too short for the oral examination it is not the fault of the examiners, and I say this, that the examiners do find it and have found it too short, and written examinations you must remember cannot include many questions.

Prof. Williams:—I should like to say a word or two with regard to this matter, I think that with regard to the written examination the examiner should be allowed to have some degree of judgment in the matter either to conduct his examintion for fifteen or even thirty minutes I believe in the Universities, the written papers are very good. The oral examination is very often a simple and a mere trifling one; in fact they are perfectly satisfied if the written examination is good, and do not trouble to ask any questions. In some subjects, I know, there is no examination at all if the papers are satisfactory. If the student has written a shady paper, perhaps not quite up to the mark, perhaps not good enough to pass, but not bad enough to be rejected, more than fifteen minutes should be allowed the examiner to find out what that student really knows. I think fifteen minutes in such a case is too short a time, whereas in other cases fifteen minutes is quite long enough. I think that it would be better if it could be altered so that it was optional for the examiner to take fifteen minutes or even thirty minutes or more as the case required. I must say that I am inclined to agree with Dr. Fleming, I know it is very difficult to get anything out of a student in 7½ minutes. Therefore, I propose, if possible, that the examiners should have the option of extending it to fifteen minutes in each subject, that is thirty minutes altogether.

The President:—I want to understand, Professor Williams, what your motion is. Is it that you propose that it should be left to the option of the examiner to extend it to fifteen minutes for each subject?

Prof. Williams:—I mean fifteen minutes for each division.

The President:—That, at the option of the examiner it can be extended to thirty minutes.

Prof. Williams:—Yes.

Vet.-Capt. Raymond: I do not quite see how this can be done. The idea of having a written and oral examination was this. The original examination was a written one; it was really intended that the examination should be in writing, but the oral examination is for the purpose of ascertaining if the student when he has written his paper has cribbed or otherwise come improperly by his information.

Prof. Williams: No.

Vet.-Capt. Raymond: That is the scientific principle of examinations as conducted everywhere now-a-days.

Mr. Kidd: I think there is one consideration that should not be overlooked. There are some students who are not capable of putting on paper what they know, but by means of an oral examination their knowledge can be drawn out. One of the examiners says that it is not sufficient time. His experience warrants us to take that into consideration. When we are making alterations for the future I think that should be taken into consideration.

Vet.-Col. Lambert:—I quite agree with Dr. Fleming and Professor Williams' ideas, but we have to consider the question of expense. The question is whether we could do it with these alterations at the same expense for the whole examination.

Professor Heaton:—It might be worth while to mention what the practice of the Royal College of Physicians

is with regard to the matter of written and oral examinations. There the papers are the fundamental thing, and the oral is quite optional with the examiners. If a man does a very good paper he is not troubled with an oral examination; if, on the other hand, his paper is exceedingly bad he has no oral. If, however, the examiner is doubtful of a student he tests him orally, and if he does pretty well, then marks are added to his paper, and he is enabled to pass. That is the custom there, so that quite a small proportion of students are examined orally.

Mr. OLVER:—I say that if the paper is exceptionally good he need not examine orally. If he is in doubt he could give them the additional time.

Mr. TRIGGER:—I should put it not that he *may* but that he *must*.

Professor MCKENDRICK:—My experience of oral examinations is somewhat different from what has been stated by some gentlemen. I think the use of an oral examination is to test a man's practical knowledge. A man may make a very fair appearance in writing a paper, and yet when he comes to see the real specimens before him we find out that he knows very little about it. I have found that to be the case over and over again. In Glasgow we have abandoned that practice for a good many years of allowing good men to pass without an oral examination because it has been found that good men sometimes are not really practical men. For instance you may find that he makes a bad paper in the written examination, and yet he may be able to pull up in the oral to a considerable extent. I think it would meet the difficulty suggested by Dr. Fleming, and certainly meet the views of the examiners in physiology if you extended the time of the oral examination to 20 minutes and gave us five minutes more, and let that examination be of a practical kind. The difficulty we have experienced in histology is that we have only 15 minutes, and if we set a man to a couple of microscopes he misses recognising the specimens; whereas if you give him more time to enable him to take the specimen up and move it about you find his knowledge is really very good after all. It is a question of whether he knows the thing or not, not whether he can recognise the specimen in so many minutes. I think if you adopted my suggestion you would meet the difficulty. I ask you to cut off one hour of the written and give five minutes extra for the oral examination. I think that would meet the demand of histology and physiology as well.

Professor WILLIAMS:—Would it do to read it this way "The oral not to exceed 30 minutes?"

Mr. HUNTING:—I should like to ask Professor McKendrick a question. I wish to enquire whether it would not be possible in one of the written questions to supply a man with 10 microscopes in the room, and in that way get over this difficulty which is a question of length of time?

Professor MCKENDRICK:—That is a very reasonable proposition if you had a suitable hall with proper light. It could be done very well with 8 or 10 microscopes letting the men go up to the examiner and write about what they see. As far as I am concerned I quite agree to that proposition.

Professor BROWN:—It seems to me that Dr. Harley's examination at the University College in histology for his prizes was conducted in that way. Specimens were put before him and lamps and microscopes were provided for each person and the whole competition was a written one from beginning to end.

Dr. VAUGHAN:—I should like to say that I have examined on comparative anatomy ever since it was made a separate subject, and I have to say that it is utterly impossible to examine on that subject in the space of 7½ minutes.

Mr. OLVER:—You have two hours for the written examination.

Dr. VAUGHAN:—I look upon the oral examination as being more valuable than the written, and in that I am backed up by all good authorities. That is the case in Edinburgh. I have heard that Sir William Turner says the same. He looks upon the paper as a rough means of weeding out bad men or of selecting exceptionally good ones. He thinks the paper finds out and makes prominent the exact man and the oral examination brings out the ready man. The exceptionally good man will shine in both examinations. I must support Dr. Fleming in what he has said as to the necessity of an extension of the time.

The PRESIDENT:—It is proposed that 20 minutes should be substituted for the 15 minutes in the oral division of examination "B," subjects 1 and 2.

The motion was put and agreed to.

The PRESIDENT:—We now reach subject 3 of examination B "Oral only 30 minutes."

Vet.-Capt. RAYMOND:—I move that it stand as it is.

The motion was carried.

TIMES OF "C" EXAMINATION.

The PRESIDENT:—Examination C, subjects 1 and 2 "Written 3 hours. Oral 15 minutes."

Mr. TRIGGER:—I propose that it be 2 hours.

Professor WILLIAMS:—I beg to second that.

The PRESIDENT:—It is proposed that 2 hours be substituted for 3 hours in the written examination and that the oral examination be 15 minutes.

The motion was agreed to.

The PRESIDENT:—Subject 3 "Written 3 hours. Oral 30 minutes."

Professor WILLIAMS:—I move that the written be 2 hours.

Professor WALLEY seconded the motion, which was agreed to.

Mr. FRASER:—I am sure there is a misunderstanding about the oral. In examination B we took the written by itself and we presumed you were doing the same thing here.

Mr. HUNTING:—That has been carried.

The PRESIDENT:—I do not wish there should be any dispute so I will put it again. Is it your pleasure that the written examination, subject 1, examination "C" stand as 2 hours?

Agreed to.

The PRESIDENT:—"Oral 15 minutes."

Agreed to.

The PRESIDENT:—Subject 2, written examination to be 2 hours?

Agreed to.

The PRESIDENT:—Now, the oral examination in subject 2.

Mr. BURNETT:—I move that the oral examination be 30 minutes or more if necessary. How can you test any student in dispensing in 30 minutes besides taking therapeutics and toxicology?

Mr. OLVER:—I propose that it be stated that for this clause 15 minutes be the minimum. It is only to enable you to have 3 or 4 students at one time. It might be easily done.

Mr. BURNETT:—I have moved that the oral examination be 30 minutes.

Mr. HUNTING:—I think Mr. Olver's suggestion to add a sort of rider is extremely important.

The PRESIDENT:—I take it that Mr. Olver's suggestion has nothing to do with Mr. Burnett's motion.

Mr. HUNTING:—I thought it had.

Mr. FRASER:—I second Mr. Burnett's amendment.

Mr. TRIGGER:—I second Mr. Olver's amendment.

The PRESIDENT:—I will put Mr. Burnett's motion that the time be 30 minutes.

The amendment was then put and lost.

The PRESIDENT:—Mr. Olver's amendment is that

there be a minimum of 15 minutes and that the students be allowed to be examined conjointly.

Dr. FLEMING :—I think it is as well to have a definite time fixed.

Mr. TRIGGER :—I put it this way, that the time be 15 minutes and that the students be examined conjointly.

Mr. OLVER :—It has been the custom in the past that in examining in practical pharmacy, dispensing medicine that 3 or 4 men are set at work at one time to do certain things, one to weigh out certain stuffs and another to make horse balls. They each have more than 15 minutes. The difficulty you want to get over is that the examiner shall not be paid for more than 15 minutes. In the way suggested you have additional time without the additional fee.

Mr. FRASER :—Does that mean that if three students are in the room at once the examiner has 45 minutes for the three ?

Mr. OLVER :—No, 15 minutes.

Mr. SIMCOCKS : Three men in 15 minutes, will he be paid for the three ?

Mr. OLVER : I may say that the examiners never have been paid for more than 15 minutes per student, but by taking three or four students at a time they have been able to give more time.

Mr. SIMCOCKS : I cannot understand Mr. Olver's explanation. If four students are in the room together are they to be kept there for an hour ?

Mr. OLVER :—I am afraid that I have been unable to explain myself. All you do is this. You are allowed a quarter of an hour to examine the students in and if you have four men in you can give to each of these men an hour ; but still you are only paying for a quarter of an hour for each student.

Prof. PENBERTHY :—We surely are not discussing the pay of the examiners here. We are trying to restrict the time at which each student shall be examined. According to Mr. Olver's suggestion the examiner may examine the student for an hour or an hour and a half and only get the same pay. I fancy we must define here the time that the student is to submit himself for examination. I hold that each student should have a quarter of an hour and that would be definite.

Mr. BURNETT :—I should like to ask Mr. Olver what a student in pharmacy could do in fifteen minutes.

Mr. OLVER :—That is the objection we get over.

The PRESIDENT :—That is not the question. We are now simply discussing what the time shall be. Shall it be 15 minutes or shall it be as Mr. Olver says that students may be examined conjointly ?

Mr. SIMCOCKS :—I suggest that the amendment should be put in writing.

Vet.-Col. LAMBERT :—I perfectly well understand what Mr. Olver means, and I think his proposition most reasonable. An examiner has to watch a man making up a ball for a quarter of an hour when he might have 3 or 4 students before him watching them doing other things at the same time. That would enable him to give a thoroughly practical test. We could extend the time without extra expense. Although the subject of extra expense is not being discussed now the whole thing hinges upon it, I therefore think that what Mr. Burnett says is most reasonable—that you cannot examine in all these subjects if you only give a quarter of an hour to each student, but if you allow the latitude asked for by Mr. Olver, I think the difficulty can be got over.

Mr. ALMOND :—I think it might be put in this way—15 minutes oral examination and 45 minutes practical work.

Mr. HUNTING :—No, the oral is the practical.

Mr. ALMOND :—Under the circumstances I will move that it be as heretofore, and that four men shall be examined conjointly—that while each man is doing his 15 miuutes oral examination the other men shall do their practical work.

Prof. PENBERTHY :—I second that.

Vet.-Capt. RAYMOND :—I am inclined to support that because I am quite at a loss to understand what Mr. Olver is driving at. Four men for an hour or one man for a quarter of an hour is the same. I do not see any difference at all.

Dr. FLEMING :—Could not the matter be left to the examiners. Surely they know best where to examine in pharmacy. The examiners know what they have to do and can arrange accordingly. I think, if you stipulate the time, it is quite sufficient.

The PRESIDENT :—I will put Mr. Almond's amendment "That the time will be 15 minutes oral and 45 minutes practical work ; four men to be examined conjointly."

Mr. HUNTING :—This is not an amendment. We have agreed that the examination shall be written and oral. Now somebody wants to add what he thinks a third arrangement that he calls "practical." We have written and oral, that is all.

The PRESIDENT :—Does Mr. Almond persist in his amendment ?

Mr. ALMOND :—Yes, I do. I think it ought to be carried out. It seems to me to offer no difficulties whatever.

The PRESIDENT :—I will put Mr. Almond's amendment.

The Amendment was put and lost.

The PRESIDENT :—I will now put Mr. Olver's amendment "That the time be 15 minutes, but that the examiners be permitted to examine the students conjointly." It does not specify any number of students.

Mr. ALMOND :—I should like to point out that you leave it to the examiner whether he shall give a practical examination or not. It should be left entirely to his judgment.

Mr. Olver's amendment "That the time be 15 minutes, but that the examiners be permitted to examine the students conjointly" was then put and carried.

The PRESIDENT :—The next is subject 3 in examination "C," "written 3 hours."

Prof. WALLEY : I move that it be 2 hours. Prof. WILLIAMS seconded the motion which was agreed to.

The PRESIDENT : "Oral 30 minutes."

Prof. WALLY : I beg to propose that it stand as it is. Vet.-Col. LAMBERT seconded the motion.

Prof. WILLIAMS : I move as amendment that the oral be 30 minutes. Mr. SIMCOCKS seconded the amendment. The amendment was then put and carried.

TIMES OF "D" EXAMINATION.

The PRESIDENT : The next is examination "D," section 1 "written three hours."

Mr. J. ROALFE COX : I propose that it be two hours. Prof. WALLEY seconded the motion.

Mr. HUNTING : I should like to point out that originally it was two hours, and that it was altered to three hours because there were so many subjects, and we wish to include helminthology and parasitology. We, therefore, gave 8 questions instead of 6 in that division. I think the extra two questions which are required ought to have an extra hour.

Vet.-Col. LAMBERT : In our Army examinations we have great experience in this matter of written examinations, and we find in this subject if you attempt to cut down below three hours one or two questions do not get answered. I have questioned the candidates afterwards as to why they did not attempt to answer the questions, and the reply has been that there was not sufficient time. I then questioned the student to see if he really knew anything about the matter, and I found he did. I, therefore, propose that the time remain as it is.

Prof. McKENDRICK:—I must say I think three hours are required for such an extensive range of subjects mentioned here.

The motion that the time be three hours for the written examination was agreed to.

The PRESIDENT:—"Oral 45 minutes."

Mr. J. ROALFE COX:—I propose 30 minutes. Originally 20 minutes were assigned to this, but during the last few years materia medica became associated with this branch, and it was cut down to 15 minutes, which was obviously too short. I propose 30 minutes.

Mr. WOODS:—One set of examiners will be abolished in the final examination. I think there is a too great multiplication of examiners. It is desired that a final examination should be carried through by the same set of examiners. I should like to point out to Mr. Cox that in this clause 1 will have to be included, what is now the practical examination. In order to make clear what I want to say I would ask Mr. Thatcher whether by the resolution which has been passed as to subject 2 of examination "C" a student can legally be examined for more than 15 minutes?

Prof. WALLEY:—No he cannot.

Mr. WOODS:—In that case I should certainly move that in clause 1 there should be a minimum of 45 minutes because it is advisable to examine students conjointly in this way. You examine the student now for half an hour orally of which you take the man to a horse and examine him as to soundness. You let him do that as long as he likes. As to the oral he cannot speak above 15 minutes what ever else you wish him to do. I take it that the object of this matter of time is to prevent the examinations becoming more expensive. If you put 45 minutes as the minimum the examiner would only be paid for 45 minutes, but in reality the student himself would get a longer period. The examiner would be examining another student orally while the first student is examining the horse for soundness when he is far better left to himself. If it is an illegal matter to examine a student for a longer time then I should put down a minimum of 45 minutes, or half an hour if you like, but I wish you to allow the examiners as long as they may require.

Mr. J. ROALFE COX: I should like to be permitted to alter the expression of my opinion. I had no idea that the two branches of examination, oral and practical, had been joined. That being so 45 minutes would certainly not be too short a time. The average has been 45 minutes. When the two examinations were conducted by the same examiner it was always 20 minutes for oral and optional for the other. I agree that a minimum of 45 minutes in the conjoint arrangement would be the right thing.

Professor WALLEY:—It is a remarkable thing that in this suggestion the practical does not appear at all. Might it not be easily got over in this way "Oral and practical one hour?"

Mr. HUNTING:—Oral means practical. The examination now is as it used to be.

Professor WALLEY:—Oral and practical have always been separate.

Mr. HUNTING:—All through the scheme the oral is a practical.

The PRESIDENT:—As Mr. Cox has withdrawn his amendment there only remains that of Mr. Wood. He wishes to put it at a minimum of 45 minutes.

Mr. HUNTING:—I should like to point out that the Council will not accept any maximum or minimum. We must have a definite time put down. To meet the suggestions thrown out by Mr. Wood and by Mr. Olver I would suggest that the time be worded something in this way, that they take four students together for two hours. In that way you get over the difficulty of the wording, and you practically get two hours if you want it or half an hour if the man is done with.

Mr. WOOD: I agree that the examination should be cut down to a minimum of 30 minutes. That would reduce the cost of the examination.

Vet.-Capt. RAYMOND: We are not discussing the price of the examination?

The PRESIDENT: No.

Professor WALLEY: For myself I see the necessity of having the matter settled definitely, and in order to bring the matter to a point I propose that it be placed at one hour.

Professor McCALL: I second that.

The PRESIDENT: We have two amendments. I will put Professor Walley's first—that the time shall be one hour for the oral examination.

The amendment was then put and 13 hands were held up in its favour.

The PRESIDENT: I will now put Mr. Hunting's amendment that four students be examined conjointly for two hours.

The motion was put 13 voting for it.

The PRESIDENT: I will now put Mr. Wood's amendment that there should be a minimum of 45 minutes.

The amendment was put and negatived.

The PRESIDENT: As the voting for Professor Walley's and Mr. Hunting's amendment is equal, I shall give my casting vote in favour of Professor Walley's amendment, viz., that the time be one hour for the oral examination. May I take it that that decision applies to subject 2 as well as to subject 1?

Professor WALLEY: Yes.

Agreed to.

The PRESIDENT: We ought to take your opinion as to whether "All subjects to be tested by written and oral examinations in the presence of living or other specimens." Do you agree to that?

Agreed to.

The PRESIDENT: The next is "Written papers to consist of six questions, but only four to be attempted excepting in class D when eight questions shall be set and six answered."

Vet.-Capt. RAYMOND: It says "All subjects to be tested by a written," but down below you say that some of the subjects are partly oral. Would it not be wise to add "where not otherwise specified?"

Dr. FLEMING: Is there any need for this note to be inserted at all?

The PRESIDENT: No.

Dr. FLEMING: Then, why is it put in?

Professor WALLEY: I beg to propose that it be deleted.

Vet.-Col. LAMBERT: I propose that it remain. I also propose that if six questions be set that all be attempted.

Professor WALLEY: My proposition is that the first note be deleted.

Professor VAUGHAN seconded the motion.

Mr. THATCHER: It might read "All subjects to be tested by a written examination where not otherwise specified and an oral examination in the presence of living and other specimens."

Professor WALLEY: I will adopt the reading proposed by the solicitor.

The PRESIDENT: There is no objection to that.

Vet.-Col. LAMBERT: I propose that if six questions are put that the candidates should attempt all of them instead of only four.

Professor WALLEY: Make it optional.

Mr. HUNTING: Why?

Vet.-Col. LAMBERT: I am sorry to bring forward the Army so much, but we have six questions there, and they have to try every one of them. I do not see why a man should have the option of cutting down two of the ques-

tions simply because he may know nothing about them. It has a material influence upon our marks if the student misses any question.

Mr. BURNETT: I second Col. Lambert's motion.

Mr. TRIGGER: I suggest that it remain as it is. I think each question should specify the number of marks it carries. The more difficult the question the greater should be the number of marks; then the best men will ignore the worst questions and take up the best. If one question carries 100 marks more than another the best men will take that question I move that it remain as it is, but that each question should have the specified number of marks it carries.

Mr. HUNTING: The reason the examinations are as you find them—that there should be two more questions than the man is required to answer—was based upon this idea, that there are questions which would puzzle any man occasionally, and that it would be only fair to enable a man to choose his strongest subject and leave the others. We have also arranged the time for the six questions to be answered and not the eight. You will notice that the two hours would be sufficient for a man to do four answers. The questions also will be set by the examiners, I presume, with some consideration for time. The Army examinations we know nothing about, and we are not prepared to accept them as a model. It is quite possible for the Army examiner to set questions which would occupy a man six hours. All we want is to do the best we can for our students to make things as easy as we can—(No, and Oh! oh!)—you do not know what I was going to say, to make things as easy as we can for them within the limits of thoroughly knowing their work, and I do not think you can suggest any better way than by having two more questions than it is necessary for a man to answer.

Dr. FLEMING: I should like to know why a limit should be fixed to the number of questions. Supposing a certain number of marks are attached to each question why should not a man be allowed to answer all six questions if he can? I think it is a curious way of limiting the number of answers. If the student can answer all the questions why not allow him to answer them?

Vet.-Capt RAYMOND: It would take up the examiners' time unnecessarily. That is the reason.

The PRESIDENT: I will put Col. Lambert's amendment that the paper consist of six questions all of which are to be answered.

The amendment was then put and lost.

The PRESIDENT: It stands as it is.

An adjournment for lunch then took place.

The PRESIDENT:—We will now proceed with the synopsis of each subject.

Examination "A."

ANATOMY OF DOMESTICATED ANIMALS.

Synopsis of Subjects.

Bones. Ligaments. Joints. Muscles of Limbs.

Agreed to.

The PRESIDENT: The next is

CHEMISTRY AND ELEMENTARY PHYSICS.

Synopsis of Subjects.

Chemistry (Metallic Elements).—Mechanical mixture—Chemical compound—Chemical force—Analysis—Elements—Compounds—Synthesis—Hydrogen—Chlorine—Hydrochloric acid—Bromic—Iodine—Fluorine—Hydrofluoric acid—Oxygen—Ozone—Water—Hydroxyl—Atomic theory—Molecules—Atomicity—Equivalency—Natural waters, their physical and chemical qualities in relation to health and disease—Sulphur—Hydrosulphuric acid—Sulphurous anhydride—Sulphuric acid—Thiosulphuric acid—Nitrogen—Ammonia—Oxides of nitrogen—Nitrous and nitric acids—Chemical composition and properties of the atomosphere—Phosphorus—Phosphides of hydrogen—Oxides of phosphorus—Phosphoric acids—Boron—Carbon—Marsh gas—Olefiant gas—Acetylene—Coal gas—Carbonic oxide—Carbonic anhydride—Carbon disulphide—Silicon—Silicic anhydride—Glass—Stoneware—Earthenware—Weathering of rocks—Formation of soils—Destruction of building—Stones.

Chemistry of the Metals.—Potassium, Sodium, Lithium, Ammonium, Barium, Strontium, Calcium, Magnesium, Aluminium, Zinc, Cadmium, Lead, Manganese, Iron, Cobalt, Nickel, Chromium, Molybdenum, Tin, Bismuth, Antimony, Arsenic, Copper, Mercury, Silver, Gold, Platinum.

Organic Chemistry (Chemistry of Animal and Vegetable Bodies).—Introduction—Synthesis of organic compounds from inorganic materials—Structure of the simpler carbon compounds—Structure of the hydrocarbons—Proximate and ultimate analysis of organic compounds—Empirical, molecular, and rational formulæ—Classification of organic compounds—Saturated and unsaturated hydrocarbons—Hydrocarbon radicals—Valency of hydrocarbon radicals—Compounds containing hydrocarbon radicals—Nomenclature of organic compounds—Methods of formation of organic compounds—Isomerism—Metamerism—Polymerism—Hydrocarbons—Paraffins—Methane—Petroleum—Paraffin—Ethylene—Acetylene Terpenes and camphors—Volatile oils—Benzene—Benzene derivatives—Naphthalene—Anthracene—Alcohols—Methyl alcohol of wood spirit—Ethyl alcohol of spirits of wine—Fermentation—Malting—Brewing—Distilling—Amylic alcohol—Wax and spermaceti—Allyl alcohol—Benzol alcohol—Phenols—Phenylamins—Aniline colours—Glycol—Glycerine—Fat and Oils—Saponification—Soaps—Ethers—Ethylic ether—Compound ethers—Haloid ethers—Chloroform—Bromoform—Iodoform—Aldehydes—Organic acids, &c.—Amines—Amides—Glucosides—Bitter principles—Colouring matters—Indigo—Alkaloids—Foods of domesticated animals—Amyloses—Glucoses—Sucroses—Albumenoids—Gelatin—Digestion—Saliva—Gastric juice—Bile—Pancreatic juice—Chyme—Chyle—Blood—Milk—Bone—Sweat—Urine of health and disease—Urinary deposits—Urinary and other calculi—Fæces—Manure.

Elements of Physics (Matter and Force).—Motion—Different kinds of manifestations of force, *e.g.*, gravity, cohesion, adhesion, heat, light, electricity, &c.—Levers—Pulleys—Weights and measures—English and metric systems—Specific gravity. **Heat.**—Sources—Expansion—Thermometry—Change of state (latent heat)—Diffusion—Conduction—Connection—Reflection—Radiation—Specific heat—Solution—Crystallisation—Physical and mechanical properties of gases—Air pump—Barometer—Diffusion of gases and liquids—Osmosis—Dialysis.

Vet.-Capt. RAYMOND:—The examiner in chemistry is not here.

Prof. VAUGHAN: Professor Heaton asked me to state with reference to this chemical synopsis that it was a great deal too extensive; too deep and too minute. He said it was fully four times as searching as the M.B. examination in chemistry at the University of London. That is saying something. He said that it would imply that a man was a first-rate chemist who could encounter such an examination. I state only what he asked me to tell you, but I think that it indicates that this part of the subject ought to be well considered.

Prof. WALLEY: I quite agree with those remarks. I should call attention to two things. There are two things to be struck out. For instance, at the last part of the first paragraph you have "weathering of rocks—formation of soils, destruction of buildings, stones." That is surely geology, and has nothing to do with veterinary chemistry. It ought to be struck out. I propose that the part beginning with "glass" to the end of the paragraph be struck out.

Prof. WILLIAMS: I propose that this matter be recommitted to the examiners in chemistry to draw up a further synopsis. I can approve of nothing. The whole

thing is too complicated altogether and no mortal man, even a professor of chemistry, could pass an examination of this kind. I propose that the whole matter be re-committed to the gentlemen who act as examiners.

Prof. VAUGHAN: I second that:

Vet.-Capt. LAMBERT: I might say that those who drew it up thought they would do the best thing they could in taking the syllabus of what was taught at one of the London Colleges and simplifying that syllabus as much as possible. Therefore, the syllabus of the Royal Veterinary College, London, was taken and it was cut down somewhat.

Prof. WILLIAMS: Do you mean to tell us that they teach all these subjects at the College?

Vet.-Capt. RAYMOND: I have the syllabus in my hand.

Prof. MCKENDRICK: I should like to say a word from the teachers' point of view. It is one thing to give a systematic course of lectures, and go over probably very hurriedly such subjects as have been alluded to by Professor Walley, but it is another thing to put those subjects forward as requirements for the examination. It is an entirely different thing. I beg to support Professor Williams' suggestion that it should be relegated to the examiners in chemistry to simplify it considerably and that we should call their attention to organic chemistry and practical chemistry and call attention to the fact that a considerable amount of physiological chemistry has been introduced which really should fall within the province of physiology.

The motion was put and agreed to.

The PRESIDENT: The next is :—

BIOLOGY:—ELEMENTARY ZOOLOGY, AND BOTANY.

Synopsis of Subject.

BIOLOGY.

ZOOLOGY.

1. Notions of General Classification: Sub-kingdoms, Classes, Orders, Orders, Species, Races.
2. INVERTEBRATES: Characteristics, classes.
3. Protozoa: Amœbæ, Gregarines.
4. Echinoderms: Characteristics.
5. Worms: Flukes, Tapeworms, &c.
6. Mollusca: Characteristics.
7. Insecta: Characteristics, metamorphosis. Examples of useful and deleterious insects.
8. VERTEBRATES: Organisation, skeleton, &c.
9. Amphibia: Characteristics, metamorphosis.
10. Fishes: Characteristics.
11. Reptiles: Characteristics.
12. Birds: Characteristics.
13. Mammals: Characteristics. Elementary notions of orders.

BOTANY.

PLANTS.

1. Vegetable Kingdom: difference with Animal Kingdom.
2. Elementary ideas about the Organs and their Functions.
3. Flowering and non-flowering Plants.
4. Organs of Nutrition: Roots, stem, leaves: Organs of Reproduction: The Flower (calyx, corolla) andræcyum and gynæcum: Examples chosen from common or useful plants: The fruit, seed, germination.
5. Non-Flowing Plants: Elementary ideas about Sedges, Algæ, and Fungi.
6. Classification (Principles) of Plants: Natural orders, sub-orders, classes, species, &c.
7. Characters of the following natural orders, and ideas about the veterinary plants therein.

DICOTYLEDONS.

Cruciferæ: Rosaceæ: Leguminosæ: Compositæ: Solaceæ: Umbeliferæ.

MONOCOTYLEDONS.

Liliaceæ: Graminiferæ.

Dr. FLEMING: We have no examiners upon this subject. It is not examined upon at present. It is an immense synopsis. I do not know what amount of it a student could acquire in 8 or 9 months; it is a serious business.

Prof. WILLIAMS: I do not think we can simplify the subject "zoology," if we are to have that subject at all.

Prof. WALLEY: We do not want to go deeply into it—only elementary. You must trust to the examiner. I do not see how you can alter this.

Prof. MCKENDRICK: I think it might be fair that the attention of the examiner on this subject should be called to the fact that an elementary knowledge is all that is required. That is done in the University of Cambridge for the passing of zoology and botany. It is especially mentioned that an elementary knowledge of the subject is all that is wanted.

Dr. FLEMING: I think it will be better to put in "Elementary."

Vet.-Capt. RAYMOND: "Elementary zoology" is put at the head.

The PRESIDENT: I will put it to you that "elementary zoology" stand as it is.

The PRESIDENT; We will now take Botany.

Mr. ALMOND: I should like to point out that it is a very limited examination, and that if you restrict to the orders which are now before you, you will cut out many orders from which we derive medicinal plants. Of course I think there ought to be a general and inclusive term by which all medicinal plants would be included.

Professor WALLEY:—With reference to this matter of botany Mr. Almond says that it is a simple matter. I confess that questions on these subjects could only be put to a man who had studied botany for several years. So far as "natural orders" are concerned I quite think that they should be limited in number, because there the "natural orders" range over a very large extent, and some of them are absolutely of no use whatever to veterinary students. In this list here we have, for instance, Rosaceæ. That surely is not of vast importance as compared with Papaveraceæ. You have not got Ranunculaceæ from which there are a vast number of medicinal plants. You have got Lilliaceæ. Certainly you want one or two things coming in there. You have also got Graminiferæ. I do not know what that means.

Vet.-Col. WALTERS:—I think if this matter were referred back to the botany examiners, we might suggest that a few alterations should be made without materially altering the syllabus which would entail very little extra work upon the student, and would make it more satisfactory to every one concerned. Certainly there are some very important "natural orders" omitted here. I quite agree with Professor Walley that the "natural orders" should be limited; otherwise we might make this subject so extensive that no man could possibly learn it in two years, let alone in a few months. He has to study it so as to pass. I agree with the body of the syllabus. It is simple enough and purely elementary, but it embraces sufficient to answer all practical purposes. I should propose that this matter be referred back to the botany examiners for the purpose of revision with reference more particularly to the natural orders. We have Ranunculaceæ, Papaveraceæ, and Scrofulariaceæ omitted, all of which contain poisons and are medicinal plants which it is necessary that veterinary surgeons should know something about. I beg to move that the subject of botany be passed with the addition of the following natural orders, Ranunculaceæ. Corniferæ, Scrofulariaceæ, Papaveraceæ and Cyperaceæ.

Mr. FRASER: I will second that.

Mr. HUNTING:—I propose we leave out all the natural

orders. We have already chopped it down until it is no longer the science of Botany. We might just as well get rid of these natural orders and simply refer to them when it is necessary for the illustration of Structural Botany and Classification. If we are to go on with Botany and include the natural orders let us take them as they are found in the text book, if not, do away with Botany as a subject, and simply have structure and classification as a sort of prelude to physiology; but to go into the details of the natural orders is far in excess of what is necessary. It seems to be overlooked entirely that the training of our students should be directed to the diseases of animals. If a man is to understand the diseases of animals it is not by any means necessary that he should know anything about the natural orders of plants.

Professor WALLEY: He should know poisonous plants.

Mr. HUNTING: All we require it for is as a sort of introductory subject for the understanding of others. Let us have either a practical examination on useful things or a proper scientific consideration of the whole. Let us stop at the proper place.

Mr. DONALD: I will second Mr. Hunting's proposition. As a country practitioner I hold that botany, as a science, is absolutely unnecessary. All we want to be able to recognise is the poisonous and medicinal plants. I think that can easily be done without teaching the student a string of botanical terms.

Mr. ALMOND: A considerable amount of discussion has taken place with regard to the value of botany as an educational subject. I take it that, of all the elementary subjects we teach and examine upon, this is one of the most important. I think every one present will admit that the faculty which is of pre-eminent value to veterinary surgeons is that of observation, and I know of no subject so calculated to develop the faculty of observation as the study of botany. Another most important faculty is that of right deduction. If botany is studied as it should be these are the two faculties which are developed more than any other in the study of this subject. On those grounds, therefore, especially for the cultivation of the most valuable faculty which a veterinary surgeon should have, this subject ought to be, instead of curtailed, rather extended. With regard to the fact of the knowledge of botany being of value to country practitioners I was very much surprised to hear it said that botany was of no value. I have been a country practitioner for many years and have found botany of inestimable value in my practice and in contact with my clients. They invariably receive suggestions and evidences of a knowledge of the vegetable kingdom with a certain amount of interest. I have reason to believe that, to some extent, they measure a veterinary surgeon's qualities by the amount of knowledge he has in this department. I think it is highly probable that, with the extended study of this subject, in country districts where we know every school boy at the present day is taught to a greater or lesser extent the subject of botany, if veterinary surgeons were to go into the fields with farmers who had a superior knowledge of the vegetable kingdom, they would value his services in a corresponding proportion. The last speaker said that we did not want a knowledge of botany, but only a knowledge of certain poisonous plants and certain food stuffs. When we remember that the food stuffs of our animals are drawn almost exclusively from the vegetable kingdom, it surprises me very much to hear it said that we are to ignore the subject of botany. I am certain that the veterinary profession will suffer in proportion as this subject is eliminated from the studies of the veterinary student.

Mr. TRIGGER: As a country practitioner I recognise to the fullest extent the necessity for veterinary surgeons having a knowledge of botany, but I do not think you want to add to the subject at present. I should class the botanical subjects very much on the same lines as I should analysis and bacteriology. The moment you go beyond a rudimentary knowledge of botany---beyond recognizing poisonous plants, and having some knowledge of feeding stuffs it becomes a speciality, and you should go to a specialist in botany exactly in the same way as if you want to analyse you go to an analyst. On these grounds I support Mr. Hunting's suggestion.

Dr. FLEMING: I think it is most essential that veterinary surgeons should know something of the natural orders of plants. The majority of animals that the veterinary surgeon has to attend to are vegetable feeders, and therefore I think a knowledge of Botany is necessary. It must be remembered that we instruct in our schools gentlemen from the Colonies; and also young men who may live in the country and go to distant Colonies. I confess, with a feeling of shame, that hitherto we have been obliged to rely upon the medical profession for investigations in botanical subjects when our own men ought to have been consulted. I am now speaking with regard to the Army. In India on several occasions in expeditions Botanists have been sent with them who were medical men and not veterinary surgeons, because veterinary surgeons were not supposed to have a knowledge of Botany. I say this, if a medical man is supposed to have a knowledge of Botany ten times it might be said that a veterinary surgeon should have that knowledge. It is most essential that our students should have a knowledge of Botany; let it be elementary if it may be, but I would rather it were much more complete. A knowledge of Botany is absolutely essential to veterinary surgeons. Town practitioners may not require that knowledge, but we should teach our students in every aspect of the profession whether they practise in town or country, in this kingdom or abroad. I trust that the conference will agree that this question as it now stands should be allowed to pass.

Mr. HUNTING: Will Professor Almond kindly say in which text book on the Science of Botany any of the information he desires can be obtained?

Mr. ALMOND: In Balfour's. In pursuing the study we do not confine the study to any text book but to all the text books upon which the subjects we require may be obtained. At this moment I do not know any one book which contains all the information that it is desirable that a veterinary surgeon should have upon Botany, but that is a greater reason why the subject should be taught in order that the student may have the information it is desirable he should possess.

Vet.-Capt. RAYMOND: Mr. Hunting does not agree with many people on the subject of Botany. This conference has assembled to take the opinion of the examiners and teachers of the Colleges as to whether Botany should be taught. We have heard at least one of the principals of the schools speak in its favour. Mr. Almond for the examiners has made suggestions that one or two natural orders should be added. In a technical matter of this description I think we submit our opinion to the specialists. I believe it has been moved and seconded that these additions be made.

Mr. HUNTING:—Who are the specialists?

Prof. WILLIAMS:—I agree with what has fallen from Colonel Walters and others upon this matter. Botany of course is a very wide subject. So to teach Botany as a science and up to Mr. Hunting's standard would require a great many professors and examiners and it would be an impossibility. I object to the mere fragmentary proposition of Mr. Hunting, and I think in addition to what is stated here we should add those natural orders. I know that these natural orders will be of great benefit to the students for they will pass a much easier examination when they know what they have to do. Colonel

Walters has endeavoured to direct his examination to what was practically wanted by the profession. There has been a departure from that lately, and I think the attention of the examiners in this very wide subject should be directed to what is really required by the profession. I have great pleasure in supporting what has fallen from Colonel Walters that these few natural orders should be added to what is already done in this syllabus.

The PRESSDENT: I have before me two propositions, one by Colonel Walters who proposes that the subject should be passed, with the addition of five other natural orders, and I have an amendment by Mr. Hunting who desires to eliminate all the natural orders. We will proceed with Mr. Hunting's amendment:

The amendment was then put and negatived and Col. Walters' proposition that the five other natural orders be added was carried.

Prof. MCKENDRICK: I should like to suggest two verbal corrections, first, "Difference with animal kingdom" should be "Difference from animal kingdom." I think that No. 7 would read better "Characters of the following natural orders and of plants therein of importance to the veterinary profession."

The PRESIDENT: I will see that it is attended to.

EXAMINATION "B."

The PRESIDENT:—With regard to "Anatomy of Domesticated Animals" there is no synopsis.

Prof. WALLEY:—I beg to move that we proceed to the other two sections and ask the two examiners in anatomy to draw up a synopsis.

Mr. HUNTING:—It is extremely important that something should be said about this. I do not know why it is left vacant, but I do know that this morning some conversation occurred about comparative anatomy. I do not object, if we have time, to a man being taught about the internal organs of beetles, but if we are going to do that sort of thing let it be stated distinctly. If this is to be, as I understand, the anatomy of five domestic animals, nothing more and nothing less, we want to define it. Prof. Vaughan referred to half the examination being taken up by comparative anatomy but now that will be a thing of the past.

Vet.-Capt. RAYMOND:—That is quite correct. That part to which Mr. Hunting alluded would come on in zoology. In this section "anatomy of domesticated animals" really means anatomy of the five domesticated animals with which we have to deal. The other comparative anatomy is merely general zoology.

The PRESIDENT:—Would it not be as well to state under this heading and tabulate the animals you propose to examine upon?

Mr. HUNTING:—The horse is one; and then limit it to the chief differences in the other domestic animals—the chief differences in the ox, sheep, dog, pig and cat—limit it absolutely to those six.

The PRESIDENT:—As I have it, it is anatomy of domesticated animals—those animals to be the horse, sheep, pig, ox and dog.

Mr. HUNTING:—I propose an amendment upon that.

The PRESIDENT:—It is your own proposition.

Mr. HUNTING:—No, it is not. I propose that it be limited to the anatomy of the horse, and the chief differences in the ox, sheep, pig and dog.

Dr. VAUGHAN:—What is the definition of the word "chief"? What one man might call the *chief* difference another might call an insignificant difference. If we have a definition at all let us have an absolute and certain one for our guidance.

Mr. HUNTING: If the examiner does not know a reference to a dictionary would tell him all about the meaning of the word "chief."

Dr. FLEMING: The anatomy of fowls is very important, and I think it ought to be included.

The PRESIDENT: Do you agree, Mr. Hunting, to Mr. Trigger's proposition that the word "chief" be left out?

Mr. HUNTING:—No.

The PRESIDENT:—Then I will proceed to put these amendents. Mr. Trigger's proposition is that it should read "anatomy of domesticated animals, viz., horse, ox, sheep, dog, pig." Mr. Hunting proposes that it read thus "anatomy of the horse, and the chief differences in the ox, sheep, pig and dog and cat."

Dr. FLEMING:—Are you going to make any reference to examination "A." Are we to examine the limbs &c.? Will you not add the questions in examination "A," Subject 1?

Prof. WILLIAMS:—I think we are departing from a proper examination. I think the examiner is class "B" is entitled to refer back to the examination in class "A." How is a man to know about the nerves and blood-vessels if he does not know the bones, ligaments, &c.?

Dr. FLEMING:—I should like that to be understood because reflection might be cast upon the examiner. Somebody might say that you have no right to examine upon these subjects—ligaments, &c.

The PRESIDENT:—When you have a syllabus like this, and there is no mention upon what you are going to examine, you are at liberty to go where you like.

Mr. SIMCOCKS:—The bones and ligaments are included in the anatomy.

The PRESIDENT:—I will now put Mr. Hunting's amendment.

The amendment was put and negatived, and the original motion (Prof. Walley's) was carried.

The PRESIDENT:—The next matter to be discussed is:—

HISTOLOGY AND PHYSIOLOGY.

Synopsis of Subjects

HISTOLOGY.

The recognition and description of animal tissues and fluids:—

Blood—Lymph: Epithelial tissue: Connective tissue: Muscular tissue: Nervous tissue.

The arrangement of tissues in special organs or the microscopical structure of parts.

The preparation of sections.

PHYSIOLOGY.

Structural and physical properties of organisms.

Chemical composition of the animal body.

Vital characters of the animal body:—

The blood.	Nutrition.
Digestion.	Animal heat.
Absorption.	Muscular action.
Circulation.	Locomotion
Respiration.	The nervous system.
Secretion.	The special senses.
Excretion.	Reproduction

Development.

Professor MCKENDRICK:—I venture to suggest one or two alterations which will indicate more precisely what is wanted. First under histology I suggest, instead of the words "The preparation of sections" the substitution of the words "simple histological methods." That would indicate better what is intended. "Preparation of sections" has now become a very technical subject, and some examiners might go too far in that direction; whereas if you limit the thing to simple histological methods you really ask a student to give you what may be reasonably expected from him. The next suggestion I venture to make is this. I see that under *physiology* food is not mentioned, for the reason probably that everything about food appears under the head of Organic

Chemistry in examination A. I think that immediately after "vital characters of the animal body" we might introduce the words "food and the principles of dietetics." No doubt the general principles of dietetics, the nature of food stuffs is a department of physiology, the constitution of food, the uses of the different constituents of food in building up the body; that will not interfere in the slightest degree with dietetics coming in the latter examination. If you wish to prevent any confusion you might simply use the word "food indicating that the physiologist is entitled to ask about food. I suggest it might be put in immediately before "the blood." Then in the line after "chemical composition of the animal body" I suggest we add "candidates are expected to be familiar with the characteristic chemical re-actions of albumen and sugars, and with the elementary chemical examination of milk, bile and urine." My last suggestion, as there is no mention of lactation is that after "reproduction" we add "lactation."

Mr. SIMCOCKS:—That suggestion would cover the three last lines of Organic Chemistry.

The PRESIDENT:—It is your pleasure that the subjects should remain on the paper as they are with the additions and alterations proposed by Dr. McKendrick?

Agreed to.

The PRESIDENT:—The next is

STABLE MANAGEMENT AND MANIPULATION OF DOMESTICATED ANIMALS, AND PRINCIPLES OF SHOEING.

Synopsis of Subjects.

Approaching animals.
Securing animals in stables.
Handling animals.
Handling special parts—Head, foot, tail, &c.
Use of twitches, muzzles, rings.
Grooming—Tools and implements.
Clothing—Bandaging.
Clipping—Singeing.
Halters—Pillar-reins.
Adjusting saddles, bridles, collars, &c.
Shoeing—Healthy feet.

Prof. WILLIAMS: I propose that it stands as it is with the addition of the words "principles" before the word "shoeing" in the last line. Agreed to.

Examination "C."

The PRESIDENT: The next is---

MORBID ANATOMY, PATHOLOGY, AND BACTERIOLOGY.

Synopsis of Subjects.

Morbid cellular changes. Plethora --- Anæmia. Hypertrophy --- Atrophy. Hyperæmia. Œdema --- Dropsy. Hæmorrhage.
Inflammation --- General phenomena --- Changes in blood, changes in tissue---Exudation---Products of inflammation---Varieties of inflammation---Methods of repair---Effects on special tissues---Effects on special organs.
Necrosis---Gangrene.
Thrombosis---Embolism.
Degenerations---Albuminous --- Fatty---Colloid---Mucous---Calcareous---Pigmentary---Gelatinous---Fibroid.
Morbid changes in blood---Qualitative---In relation to pressures.
Tumours. Cysts. Fever. Septicæmia. Pyæmia.
Specific infections---Their cause, local changes, general effects.
Elementary bacteriology.

BACTERIOLOGY AND INFECTIVE DISEASES.

Microscopical Methods---Examination of fresh specimens --- Aniline dyes --- Ehrlich's method --- Gram's method---Preservation of morbid specimens---Embedding---Emplo yment of colloidan---Microtomes.

Cultivation Methods.---Principles of sterilisation---Bacteriological apparatus---Preparation of nutrient gelatine---Preparation of nutrient agar-agar, glycerine --- agar-agar, blood serum, potato cultivations---Test-tube cultivations---Plate cultivations--- Drop cultivations---Examination of air, soil, water.

Biology of Bacteria.--Chemical composition---Structure--Respiration and nutrition--- Form --- Classification --- Circumstances affecting their growth---Products of growth---Chromogenic, zymogenic, septic, and pathogenic bacteria --- Disinfection --- Immunity--- Attenuation of virus --- Protective inoculation --- Anthrax---Symptomatic anthrax---Malignant œdema---Tuberculosis---Glanders---Typhoid fever---Swine fever---Swine measles---Surra---Pneumonia---Tetanus--- Suppuration and septic diseases---Strangles-- Scarlet fever---Diphtheria --- Cow-pox, horse-pox, sheep-pox --- Foot-and-mouth disease---Pleuro-pneumonia --- Cattle plague---Actinomycosis.

Vet.-Col. LAMBERT:—With regard to bacteriology it appears to be a very long subject, but the fact is there is very little bacteriology. If you read it carefully you will see there are not more than half a dozen diseases.

Professor WALLEY:—Is there any necessity to put in "examination of air, soil, water?" That examination is understood. I see that "swine measles" is mentioned. I should like to know what that is.

Vet.-Capt. RAYMOND:—There, again, we thought the best thing would be to work on the lines of the schools and we took the synopsis of the leading professor of bacteriology in London and worked on that.

Mr. HUNTING:—I venture to suggest that we might safely eliminate the whole of the last three paragraphs and substitute for them the elementary bacteriology as applied to a certain list of diseases. This examination would really enable an examiner to thoroughly test a student in bacteriology and submit him to an examination which only an expert could pass. I do not think any such thing as that would be required in the veterinary profession for the next 20 years. Not only that, bacteriology is one of those sciences that has only arrived at the stage when no man has ever written anything on it that has not been contradicted by four or five other men. Until we get bacteriology on a little better basis I think we need not worry our veterinary students with it. I quite agree that elementary bacteriology is enough.

Prof. WALLEY:—The growth of bacteriology is all that is required here. I propose that we strike out all these diseases after "protective inoculation."

Prof. MCKENDRICK:—What strikes me as being hard is the minute knowledge required of methods. To get up all these matters is very serious work. To expect an ordinary student to be familiar with all these different processes is rather too much.

Vet.-Capt. RAYMOND:—There are only two methods down.

Prof. MCKENDRICK:—There is "cultivation methods" and preparation of all these stuffs. My proposition is to strike out all from "Bacteriology and Infective Diseases" down to the middle of the last paragraph "protective inoculation," and then put the words "elementary bacteriology" as applied to the following.

The PRESIDENT:—I will now put Mr. Hunting's amendment.

The motion was put, 11 voting in its favour.

Dr. FLEMING:—I beg to move that the whole of the last portion of the section be removed.

Vet.-Capt. RAYMOND :—I beg to move that bacteriology and infective diseases remain as it is.

The PRESIDENT :—I have before me Dr. Fleming's amendment that the whole of this subject be eliminated and that "elementary bacteriology as applied to the diseases of domesticated animals be substituted."

The motion was then put, 10 voting in its favour.

Mr. HUNTING :—I thought that my motion was carried.

The PRESIDENT :—As there seems to be some misunderstanding I will put Mr. Hunting's motion again, that the first two clauses be eliminated, and that the former part of clause 3 be eliminated down to the words "Protective inoculation" and that the words "elementary bacteriology as applicable to anthrax" &c. be substituted.

The motion was put and 2 voted in its favour.

The PRESIDENT :—I will now put the original motion as moved by Captain Raymond, that it stand as it is.

The motion was put, 4 voting for it.

The PRESIDENT : I declare Dr. Fleming's amendment carried.

The PRESIDENT : The next is

MATERIA MEDICA, PHARMACY, THERAPEUTICS, AND TOXICOLOGY.

Synopsis of Subjects.

Forms in which Medicines are used.
Methods of administration or application.
Actions and uses of Medicines.
Classification of Medicines.
Special agents—their actions, doses, derivation, preparation, &c.
Incompatibles.
Impurities.
Writing and reading prescriptions.
Poisons—mineral, vegetable, animal.
Symptoms of poisoning.
Antidotes—chemical and physiological.
Tests.

Professor WILLIAMS : I propose that it stand as it is.

Prof. MCCALL :—I second that.

Agreed to.

The PRESIDENT :—The next point we have to consider is :—

VETERINARY HYGIENE AND DIETETICS.

Synopsis of Subjects.

Water—Quality, quantity.
Air—Quality, quantity.
Food—Grasses, cereals, roots, &c.
Stables, Cowsheds, Kennels, Pig-styes, Sheep-pens — Construction, aspect. Ventilation, drainage. Fittings.
Feeding—General principles, quantities, varieties of foods, preparation and mixing food.
Grooming horses. Milking cows. Washing—Sheep, dogs. "Dipping." General principles of breeding. Care of animals during gestation.
The Oral Section to include
Recognition of defects in stables.
" " harness.
" " forage.
A general acquaintance with animal conformation, especially as regards the Horse : his Points, Marks, Height, Breed, Colour, Age, Adaptability for work.

Vet.-Capt. RAYMOND :—I propose that it stand as it is.

Prof. WALLEY :—I will second that.

Dr. FLEMING :—It is proposed to wash dogs and sheep. Why not include the horses ?

Prof. WALLEY :— You might eliminate the words "sheep, dogs."

Dr. FLEMING !—Why not leave out "cows" in "milking cows" ?

Mr. TRIGGER :—I move that "milking cows" be struck out.

Mr. HUNTING.—It is very jocular on Mr. Trigger's part to move that "milking cows" should be struck out. A man might be asked how much milk a cow gave, and how long she gave it and questions like that.

Prof. WALLEY :—That comes in under "lactation."

Prof. WILLIAMS :—I consider this is all practical work done by hand. It is reducing a veterinary surgeon to a milk-maid or a washer-woman. I object to the whole lot.

Vet.-Capt. RAYMOND :—I agree with Mr. Hunting that a veterinary surgeon ought to be able to go up to a cow and milk it. He need not do it to earn his living, but if called upon to do so, he ought to be able to do it. A man would look an utter fool if he did not know how to milk a cow.

The PRESIDENT :—Prof. Williams moves that "Grooming horses, milking cows, washing, sheep, dogs, dipping" be eliminated.

Mr. TRIGGER :—I will second that.

The motion was then put and negatived and the motion that the subject remain unaltered was carried.

Examination "D"

The PRESIDENT :—In examination "D" we have :—

PRINCIPLES AND PRACTICE OF VETERINARY MEDICINE.

Synopsis of Subjects :

The Causes of Disease. Symptoms of Disease. General Treatment of Disease. Nomenclature of Disease. Classification of Disease.
Fevers—Their History, Causes, Symptoms, Treatment.
Epizootic Diseases—Their Cause, History, Distribution, Methods of Spread, Incubation, Symptoms, Treatment, and Post-mortem appearances.
Anthrax. Anthracoid disease.
Blood diseases—Rheumatism, Purpura, Diabetes, Surra, Bursattee, Azoturia.
Diseases of the Cerebro-spinal System.
" Respiratory Organs.
" Digestive Organs.
" Circulatory "
" Urinary "
" Generative "
" Cutaneous system.
(Exclusive of Morbid Anatomy and Pathology.)

Dr. FLEMING :—I would suggest that the last line in brackets be moved up to the top.

Prof. WALLEY :—May I ask what was the meaning of the gentleman who drew this up, when he put in "anthracoid disease."

Mr. HUNTING :—I am responsible for this. The reason is simply because "black-quarter" is not "anthrax," and I do not know what other term could be employed to bring "black-quarter" in.

Mr. KIDD :—I move that it stand as it is, Mr. SIMCOCKS seconded the motion.

Dr. FLEMING :—I should like to ask why, after "blood diseases," certain diseases are mentioned ? There is one which is not blood disease at all, viz., bursattee. It is due to fungus and not to blood disease at all. I think it would be better to omit the disease altogether. If the word is to be in at all, simply put "blood diseases."

Prof. WILLIAMS:—I agree with Dr. Fleming; Diabetes is not considered a blood disease by some people.

Prof. PENBERTHY: I suggest that we do not limit the examiners to any disease. I propose that all these be deleted.

Mr. OLVER:—I second that.

The PRESIDENT:—It is proposed that this subject be passed with the exception of the words after "blood diseases," namely, rheumatism, purpura, diabetes, surra, bursattee and azoturia.

Prof. PENBERTHY: Where would you bring anthrax in? It is a specific disease. I think anthrax and anthracoid diseases should come out.

Mr. HUNTING:—They must go in somewhere.

Prof. PENBERTHY: I think they are included under the diseases of either one of those systems.

Mr. HUNTING:—But the examiner might not think so. As a fact this classification is copied from "Robertson," edited by Penberthy. (Laughter.)

Prof. PENBERTHY: That does not bear upon this point.

Prof. WALLEY: Why not use the term "microparasitic" disease?

Dr. FLEMING: I beg to propose that the diseases of the sensory organs be added to the list that includes the eye, ear, tongue, teeth, and so on.

Prof. WALLEY: The foot is not in.

The PRESIDENT:—That comes under the head of surgery.

Dr. FLEMING: I will withdraw that.

Prof. MCCALL:—I beg to move that, instead of "anthrax and anthracoid disease," "specific disease" be put in after the words "blood diseases."

The CHAIRMAN: It is proposed that this subject be carried with the following alterations, that the words "anthrax and anthracoid disease" be eliminated, and "specific disease" substituted, and that after the words "blood diseases" all the following diseases on the same line be eliminated.

The motion was then put and agreed to.

The PRESIDENT:—The last is:—

PRINCIPLES AND PRACTICE OF VETERINARY SURGERY AND MEAT INSPECTION.

Synopsis of Subjects.

Pathological conditions—Inflammation, Suppuration, Abscess, Ulceration, Gangrene.
Injuries—Wounds—Incised, Punctured, Lacerated, Fistulous; Contusions, Burns and Scalds, Hæmorrhage, Sprain.
Tumours
Injuries and Diseases of—Bones, Joints, Muscles and Tendons, Arteries, Veins, Nerves, Bursæ, Lymphatics, Skin.
Injuries and Diseases of Regions—Skull, Face, Ear, Eye, Tongue, Teeth, Pharynx, Larynx, Œsophagus, Trachea, Neck, Withers, Back, Tail, Chest, Abdomen, Pelvis, Limbs, Genital Organs, Internal Organs.
Examination for Soundness.
Operations.
Obstetrics.

(Exclusive of Morbid Anatomy and Pathology.)

Prof. WALLEY:—With regard to this last paragraph you have down "Pathological Conditions, Inflammation, Suppuration" and so on, which are really Pathological and have nothing to do with surgery except as indirect matters, and you have already got them in Pathology.

Mr. HUNTING:—The answer to that is extremely simple. The examiners will not go into pathological questions at all, but require men to know something about symptoms, causes and treatment of inflammation and other things.

Prof. WALLEY:—Then why not put it in?

Mr. HUNTING:—I did not think it was necessary.

Prof. WALLEY:—I think it is necessary.

Dr. FLEMING:—It is treated under the head of inflammation in pathology.

Prof. WALLEY:—Why not put symptoms and treatment?

Prof. WILLIAMS:—You do not want it, I move that it stands as it is with "Meat inspection" added. I think it is quite understood that meat inspection will be conducted by those who examine upon cattle.

The PRESIDENT:—That is the understanding.

Prof. WILLIAMS:—I beg to propose a hearty vote of thanks to the chairman.

The PRESIDENT:—Gentlemen, I have only now to thank you for your attendance here to-day. I am very glad that we have been able to get through our work so satisfactorily.

Mr. HUNTING:—I beg to propose a vote of thanks to the Examiners and the Principals of Schools for so kindly attending here to-day and assisting us in this Conference.

Prof. PENBERTHY:—I have very much pleasure in seconding that.

The PRESIDENT:—I am sure that will be carried by acclamation, I again beg to thank you for your attendance here to-day.

EXTRACTS AND NOTES.

BACTERIOLOGY.

In the "Address on Bacteriology" at the annual meeting of the British Medical Association, Dr. G. Sims Woodhead said:—

"It has been too much the fashion to look upon bacteriology as an art rather than a science. It was supposed that if we were able to obtain evidence that a definite micro-organism was associated with a specific disease, and that if we could find a means of destroying this organism, or of preventing its access to the tissues, the limits of bacteriological teaching would be reached. Thanks, however, to the genius of such men as Pasteur, Koch, and Lister, bacteriology is now looked upon as a branch of science, the study of which may afford us help in the solution of even fundamental problems in biology; it has assumed such importance, that into its service has been pressed the general biologist, the botanist, and the pure physiologist; whilst all who practise medicine and surgery feel that they must, at least, be conversant with the principles that underlie its study. I know there are some who will not agree with this, and who will tell us that we are bacteria mad; and whilst acknowledging that in taking up this comparatively new subject we may have been led to attach undue importance to it, it must be conceded that, studied in its broader aspects, it has enabled us to grapple with some of the most difficult questions in medicine. Can an astronomer be accused of narrowness of vision because sometimes he is found looking through the telescope which covers a limited field, and is studying with

especial care a small area of the heavens? Which of us can tell of the boundless space and the countless worlds that are opened up by these seemingly narrow studies? The observer collects his data, applies the laws of physical science as at present set forth, formulates and proves new laws, and opens up and argues on a world so utterly beyond us, that his facts to those uninitiated read like the wildest fiction, and his descriptions like poetry and romance. —*British Medical Journal.*

ACTION FOR HORSE HIRE AGAINST A DOCTOR.

At the Oldham County Court on Friday, July 15th, before his Honour Judge Jones, a greengrocer named Charles Dronsfield, Greenacres Hill, sued Dr. William Knott, of Waterhead Mill, for £20 3s., being £15 3s. for the hire of a horse, and £5 damage done to the animal. Mr. Mellor was for the plaintiff, and Mr. R. M. Sixsmith for the defendant.

Mr. Mellor said that the plaintiff's case was that on the 18th October last year Dr. Knott went to him and asked if he had a horse to sell. He had a bay gelding, the price of which was £35, and Dr. Knott, after looking at it, asked to have it on trial, as he thought it would suit him. The plaintiff said he could have it on trial at 10s. a week, and those terms were agreed upon. Subsequently defendant said he would have the horse. Plaintiff repeatedly applied for payment, but without success, and on the 20th May the horse was returned by defendant's coachman. The animal had been over-driven, and was damaged to the extent of £5. The claim for hire was for 30 weeks and two days.

The Plaintiff gave evidence in support of this statement, and in answer to Mr. Sixsmith he said there was no agreement that defendant was to have the horse and endeavour to find a customer, as witness had not enough work for it to do. If defendant had bought the horse he would have foregone all claim for hire. He did not send a bill during the period defendant had the horse. The animal was all right now.

Mrs. Dronsfield corroborated, and said she went to Dr. Knott and asked him to pay.

Mr. Sixsmith :—Didn't you cry because he refused to pay you?—Witness: No, sir.—Mr. Sixsmith :—Do you really mean to say you were not affected?—Witness (indignantly) :—No, sir! (Laughter.)

Mr. Spencer Bailey, veterinary surgeon, gave evidence that hair had been cut from the legs and tail of the animal, and said it was in a poor condition.

Mr. Sixsmith contended that there was no sale or terms of hire agreed upon, and denied that any damage was done to the horse.

Dr. Knott said the plaintiff offered to let him have the horse for its keep, and he agreed. No time was mentioned, and during the seven months he had had it no application was made to him for money. He used the horse well, and only had it out on alternate days with his own. It was in a better condition when he returned it than when he first had it.

Defendant's groom stated that the horse had not been hard worked, and was in good condition when sent back.

Mr. Charles Hartley Thomas, veterinary surgeon, said he had examined the horse a short time ago, and found no traces of injuries beyond marks of very old contusions.

His Honour held that the plaintiff had absolutely failed in his case, and gave a verdict for the defendant.

Doubtful Evidence.

In the County Court, Sandwich, one day in July, before his Honour, Judge Selfe, the only case of any interest was Hogben v. Butcher.—Plaintiff is a veterinary surgeon, practising at Ash, and the claim was for professional attendance on various animals belonging to the defendant. Defendant admitted owing the money, but pleaded as a set-off the value of certain apples and cherries, with which he had supplied Mr. Hogben. Plaintiff said this was the first he had heard of any set-off, but he was willing to pay for anything he had had. Defendant's son deposed to leaving four bushels of apples at Mr. Hogben's. Concerning the cherries, the evidence given was of rather a vague character. Defendant's wife said that Mr. Hogben had the cherries, and that "she could show him the tree from which they came; only it had been cut down." It appeared that they had made no entry of the transaction, but had kept them "in their head." His Honour allowed the set-off with regard to the apples, but not for the cherries. Judgment for the plaintiff for the balance, to be paid by 8s. per month.

CORRESPONDENCE.

THE LAST PRACTICAL EXAMINATION.

SIR,

I read with much interest the remarks of Mr. Olver in his report of this examination. There is always two sides to every question and I wish now to take up the students side.

Mr. Olver says in his report there is want of system in the examination of horses as to soundness, and some things are neglected. I confess this. The students are not perfection, no more are the examiners, at least I think they shew want of method in examining. To be called away two or three times to do other things while you are examining a horse is, I consider, want of method, and to ask several students at the same time where a horse is lame is hardly a thing I consider calculated to give a man much confidence. I do not know how the examiners mark, but really there seems a great confusion over the names—first the student going to one examiner and then to another and each time being asked what his name is, or whether he is Mr. So-and-so.

I do not see how an examiner can expect a student to prove very first rate while there is so much confusion, and surely they cannot know how much each man really knows.

In conclusion I trust that those who read this may see that there is some excuse for the faults of the students considering the awkward way in which the examination is carried on; but of course there is likewise excuse for the examiners, they are comparatively new to the position, but let us hope they may live to improve as well as the students. That is the wish of

"ONE OF THE CROWD."

COMMUNICATIONS, BOOKS, AND PAPERS RECEIVED :—Messrs. Dugald McNish, J. St. Carter, T. Shipley, Junr., G. E. King, A. Levie, "The Bristol Times," "The World" (New York).

Original articles and reports should be written on one side only of the paper, and authenticated by the names and addresses of the writers, not necessarily for publication.

We shall be obliged by early intelligence of all matters worth bringing under the notice of the profession, and thankful to any friends who may send us cuttings from local papers, containing facts of interest.